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21 July 1983

# USSR Report

TRANSPORTATION

No. 122

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# USSR REPORT TRANSPORTATION

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CIVIL AVIATION

SAS RESUMES TRANSSIBERIAN DC-10 SERVICE TO TOKYO

Moscow VOZDUSHNYY TRANSPORT in Russian 12 Apr 83 p 3

[Article by I. Grigor'yev: "SAS Selects the Transsiberian"]

[Text] ... The snowy white liner with a blue stripe girdling its wide fuselage and with the inscription "SAS" on its fin, touched down on Shere-met'yevo Airport's runway softly, despite the impressive landing weight. This trip by a DC-10 airplane marked the resumption of the "Scandinavian Airlines System" (SAS) company's -- a joint Swedish, Danish and Norwegian collaboration -- regular flights on the Copenhagen-Moscow-Tokyo route, which passes over the Transsiberian route.

After the DC-10 taxied to the hardstand another SAS liner -- a DC-9 which had arrived from Stockholm -- landed. On board it were Mr Helge Lindberg, the first vice president of the airline company, and representatives of the Ministries of Foreign Affairs of Sweden, Denmark and Norway. After a short stay in Moscow, they continued their further journey to Tokyo on the wide-bodied DC-10.

I. Vasin, USSR deputy minister of civil aviation; V. Samorukov, chief of the Ministry of Civil Aviation Foreign Relations Administration; A. Mayorov, chief of the Flight Services Administration; N. Poluyanchik, TsUMVS general director; and Yan-Ulof Nyustrem, the general representative of the SAS airline company in the USSR, participated in the festive ceremonies on the occasion of the departure of SAS wide-bodied liners on the Transsiberian air route.

H. Lindberg pointed out in his presentation that this event was another confirmation of the stability of relations between SAS and Aeroflot. He recalled the history of the cooperation between the Scandinavian countries and the Soviet Union in the field of air service and pointed out that a great deal of attention is being paid by both sides to the development of the Transsiberian route in these relations.

SAS aircraft began regular flights on the Copenhagen-Tokyo route through Moscow in April 1971.

In 1978 during a visit of B. P. Bugayev, the USSR minister of civil aviation, to the Scandinavian countries, a protocol was signed in accordance with which Aeroflot and SAS began to coordinate their programs on the basis of joint long-range plans. In 1981 when the 25th anniversary of the establishment of air service between the Soviet Union and the Scandinavian states was being celebrated, an agreement was signed in Moscow which provided for the further expansion of flights on the Transsiberian route from Scandinavia to Tokyo. In the fall of last year during B. P. Bugayev's visit to Sweden and Denmark, an understanding was approved on the start of flights by wide-bodied SAS liners over the Transsiberian route.

DC-10 now complete the Copenhagen-Moscow-Tokyo route, 9200 kilometers long, in 13 hours.

In greeting the guests, I. Vasin, USSR deputy minister of civil aviation pointed out that the Transsiberian air route is one of the longest routes flying over dry land and that it is excellently equipped with radio navigation systems and alternate airfields. The selection of this route is a guarantee of the flight's high dependability and safety.

The cooperation between Aeroflot and SAS is a good example of mutual relations between the airline companies of different countries.

... A brief stop at Sheremetovo--and the DC-10, the "new settler" on the Transsiberian route -- sets its course for Tokyo.

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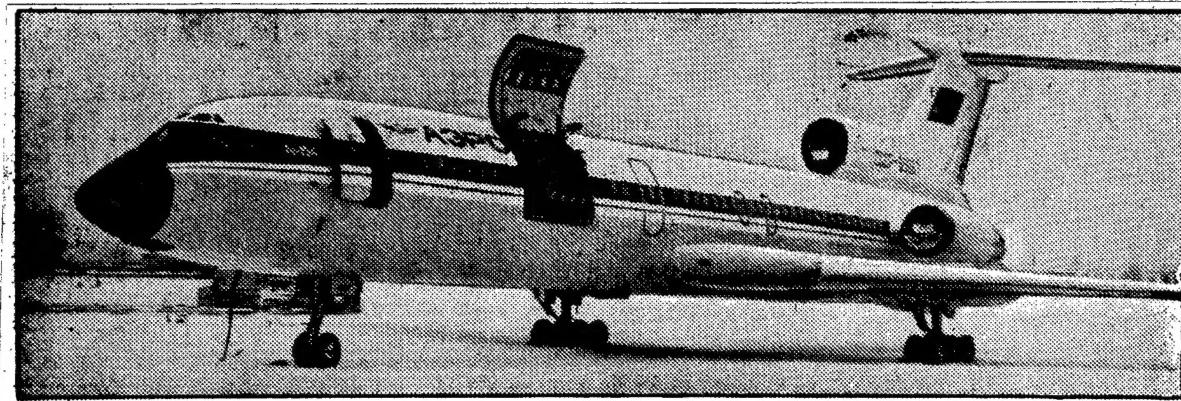
CIVIL AVIATION

TU-154 CARGO VERSION UNVEILED

Moscow TRUD in Russian 26 Feb 83 p 4

[Article: "The 'TU' -- A Universal"]

[Text] On Aeroflot Day, general designer A. A. Tupolev talked about the new TU-154S aircraft in an interview. How does it look? (S. Nikeyev, Yakutsk).



The TU-154S cargo aircraft is depicted in the photograph which is published for the first time today. As is seen in the picture, the wide hatch in the nose part of the fuselage folds far back above. This allows loading pallets with cargo into the aircraft not only from a standard truck but also using a truck crane.

The new 20-ton "truck" can be operated on all lines where TU-154 passenger aircraft are now flying. In this regard, it is important that the crews do not have to retrain on the new aircraft. When necessary, passenger seats can be mounted in the aircraft.

The TU-154S has already completed technical trips to several of the country's cities. It is planned that it will fly on international routes in the near future.

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CIVIL AVIATION

AEROFLOT'S OPERATIONS IN THAILAND NOTED

Moscow VOZDUSHNYY TRANSPORT in Russian 2 Apr 83 p 3

[Article by A. Romanov, TASS correspondent, specially for VOZDUSHNYY TRANSPORT: "With Cordiality On Board"]

[Text] Northern swallows, who have come to winter in Thailand, choose the liveliest street in the center of Thailand's capital -- Silon. In the evenings, thousands of swallows sit on the electrical wires hanging over the public roads, and when the signs of the numerous companies, banks and agencies blaze up here with neon colors, it seems that most of the birds, who are tired from the day, gather where the familiar winged emblem with the inscription "Aeroflot" shines to everyone.

A. Manyanin, the general representative of Aeroflot in Thailand, says: "Soviet airliners have already been flying to Bangkok for more than 11 years. We are proud that we represent the largest aviation company in the world which celebrated its 60th anniversary quite recently. Powerful Il-62 liners have transported more than 200,000 passengers and hundreds of tons of various freight during these years over the air routes which connect Moscow and Bangkok.

During the past year alone, approximately a thousand Thai tourists visited the Soviet Union and became acquainted with the sights of Moscow, Leningrad and the union republics. They were greeted with the hospitality and friendliness of the Soviet people, and saw with their own eyes the enormous achievements of the country of the Soviets. Aeroflot helped them to complete this fascinating journey.

With each year, the reliable wings of the "IL's" carry ever more delegations, representatives of business circles, sportsmen, and artists on the Moscow-Bangkok route. Aeroflot, whose activity is indispensable for expanding trade, economic, cultural, and sports ties between the Soviet Union and Thailand, is doing this. The Soviet-Thai agreement on air service, which has been in effect since 1971, is contributing to the development of mutually beneficial business cooperation and is helping the people of both countries to know and understand each other better.

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CIVIL AVIATION

BRIEFS

NIZHNEVARTOVSK AIRPORT--Nizhnevartovsk (Khanty-Mansiysk Autonomous Okrug) (TASS)--The field workers of the Nizhnevartovsk Oil Drilling Region, the largest in the country, have obtained a new airport. The air terminal has been put into operation here. The need for it arose in connection with the development of the northern deposits. All of them are located far from Nizhnevartovsk, and it is possible to get to them quickly only by air. In a day the terminal is capable of handling several thousand people. [Text] [Moscow KRASNAYA ZVEZDA in Russian 15 Mar 83 p 1] 7807

SPILVE AIRPORT CLOSED--It is now much quieter on the take-off runway which extended along the Daugava River not far from its mouth: the Spilve Airport has been closed forever. Since March the An-2 and Yak-40 airplanes have been transferred to the Riga Airport. The old air gateway had served more than one decade. Back in 1944, immediately after the liberation of Riga from the Nazi aggressors, several Po-2 and Li-2 airplanes were based here. In early 1945 they opened the new Riga-Moscow-Riga passenger route. Those craft also became the nucleus of the present Latvian Order of the Labor Red Banner Civil Aviation Administration. Today modern airliners, which fly to nearly 100 cities of the country, are at its disposal. The voice of the announcer, who invites boarding, is no longer heard under the arches of the air terminal at Spilve. But there is not complete silence at the airport: the base of the use of aviation in the national economy remained here. Helicopters, which perform various peacetime assignments, and An-2 airplanes, which operate in the countryside, as before are taking off from here. This year the aviators of Latvia are treating from the air more than 500,000 hectares of kolkhoz and sovkhoz land. [By V. Sobolev] [Text] [Riga SOVETSKAYA LATVIYA in Russian 26 Mar 83 p 4] 7807

SONIC DETECTOR--(TASS)--The scientists of the Kharkov Institute of Radio Electronics have developed a new means of flight meteorological support. The full-scale tests of the sonic detector, which was developed by them, were recently completed at the airport here. The equipment is designed for the gathering of information on the state of the lowest atmospheric layer, which is very important for the take-off and landing of airliners. Precisely at altitudes up to 150 m the most intense mixing of air masses occurs, the wind direction and speed frequently change and vortexes occur. The powerful acoustic vibrations, which the transmitter of the sonic detector continuously emits, are scattered in the wind and temperature inhomogeneities. Receiving the reflected signal, the microcomputer processes the obtained data and transmits them to the traffic controller. An experimental base for the development of the method of the use of the innovation by traffic controllers and pilots is

being set up at the Kharkov Airport. Specialists propose to include the sonic detector in the automated air traffic control system. [Text] [Moscow VOZDUSHNYY TRANSPORT in Russian 31 Mar 83 p 4] 7807

UPPER VOLTA AIR SERVICE--(TASS)--The signing of an intergovernmental agreement on air service between the USSR and the Republic of Upper Volta was held in Ouagadougou, the capital of the Republic of Upper Volta. Aeroflot will acquire the right to make regular flights to this country. The Republic of Upper Volta is the 100th state with which the Soviet Union now has agreements on the establishment of regular air service. [Text] [Moscow VOZDUSHNYY TRANSPORT in Russian 7 Apr 83 p 3] 7807

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## RAIL SYSTEMS

MINISTER KONAREV URGES HEAVIER, LONGER TRAINS, PRAISES CAR REPAIR INITIATIVE

Moscow SOVETSKAYA ROSSIYA in Russian 25 Feb 83 p 3

*[Article by N. S. Konarev, USSR Minister of Railways: "On the Initiatives by the Muscovites"]*

*[Text]* Today more than 10 million tons of freight are dispatched over the country's railroads every 24 hours. During the last 10 years the volume of hauls has increased by a factor of almost 1.5. However, as was noted in the decisions of the November (1982) Plenum of the CPSU CC, railroad transport has still not fully satisfied the requirements of the national economy. What then is the solution to the state of affairs which has been created?

Calculations by the scientists have shown that during the course of the present five-year plan a 60-percent increase in the volume of hauls could be attained if we intensify traffic and increase the weight of the trains. Another 40 percent--if we introduce and assimilate new capacities on schedule and continue to build second and third tracks. The second variant is drawn out over a period of time. The first will provide a return on investment within a shorter period of time. Therefore, the ministry is, first of all, taking measures to disseminate the experience of the Moscow Railroad group.

What specifically are we doing? One of the 10 comprehensive programs for developing railroad transport, which has already been developed and is being carried out in practice, is entirely devoted to the problems of increasing the weight and length of trains. We have speeded up the pace of lengthening the station-yard tracks heading to the East--Urals--Central Industrial Region; this will create favorable conditions for the long-distance runs of heavyweight trains. It has been decided that the new, heavy-duty locomotives which are capable of pulling such trains should be sent only to those railroads where the effect of their use will be high. In particular, to the Alma-Ata, West Kazakhstan, Donetsk, Southern, and Transbaykal Railroads. It has also been computed that considerable gains will be made by automating the processing of train documents. By means of precisely determining the length of a train, this will allow us to increase it by several more cars. It may seem that this is not so much. However, for the network as a whole the increase is substantial.

The comprehensive program also sets out a system of material incentives, which has already been tested out by the group of the capital's mainline. Practical experience has shown the high degree of this system's effectiveness; it is intelligible, clear, and understandable to every worker. The rational kernel of the new system of incentives lies in the fact that it is directly linked with the end results of labor.

The experience of the Muscovites is being disseminated in the railroad network. Heavyweight trains are already running along a distance of 35,000 kilometers. In particular, trains weighing between 6,000 and 10,000 tons are regularly dispatched in the North Caucasus and Tselin mainlines. In the traffic schedules for trains on many lines, including those of the Moscow region, provisions have been made for coordinated schedules according to which there should be from 5 to 15 such trains every day. However, on certain railroads--the Kuybyshev, Gorkiy, Southeastern, and Southwestern--violations of this schedule are being allowed. The ministry is adopting the strictest measures in every case.

Yet another comprehensive, targeted program is connected with improving the technical condition of the rolling stock. We are doing a great deal to upgrade the quality and increase the volume of car repair: we are creating new capacities and modernizing existing enterprises. At the same time a large amount of aid could be rendered to us by plants and factories in solving this problem. And this is why we have awarded high marks to the initiative of the Moscow enterprises who have decided to carry out the current repair of cars by their own efforts. This initiative has been discussed in the ministry's collegium. A specific decision was adopted, obligating all railroad directors to render the necessary aid to enterprises.

I wish to emphasize the following: the initiative of the capital's enterprises, in the final analysis, will have a positive effect on increasing resources and mastering the growing volume of hauls. You know, in order to repair a car--even if it is only a matter of small defects in the body--, it is necessary to take it off of the siding tracks and send it to the repair depot. As a rule, a great deal of time is taken by doing this. Today, and this is well-known, 80 percent of loading and unloading is done at enterprises. And so, if each of them supports the Muscovites' initiative, we would succeed in putting hundreds of thousands of cars into circulation. The ministries and departments must accord a planned nature to this initiative and support it both morally and materially. In other words, the plans of the enterprises should provide for sources to cover the expenditures which they bear during the time period when the cars are being repaired. Such an interested attitude toward the initiative of the Muscovites would impart still greater scope to it.

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## RAIL SYSTEMS

### RESEARCHERS WEIGH MERITS OF REGENERATIVE BRAKING

Moscow GUDOK in Russian 17 May 83 p 2

[Interview with N. Karpushchenko, chief of the Track and Track Operations Department, and Yu. Likratov, docent of the Rolling Stock Department, NIIZhT [Novosibirsk Institute for Railroad Transport Engineers], by V. Kurkov, correspondent: "KPD [Efficiency Coefficient] of Regenerative Braking"]

[Text] The first domestic electric locomotive, the VL22, was built in the 1940's. A number of problems arose in the practical introduction of regenerative braking: in electrical circuit reliability, the modernization of the supply system and traction substations, in equipping crews and metering the energy being returned.

Nevertheless, since then regenerative braking has been discussed and written about only with optimism. The main argument for it was unprecedented savings in electrical energy. Conceived as a reserve braking for locomotives in mountain sections, regenerative operations moved down the mountain, initially to hilly profile sections, and later to level ones.

The millions of kilowatt hours saved annually at each depot were entrancing, although everybody vividly understood that regeneration was far from a free "convenience." However, its coefficient of efficiency, or put more simply the ratio between the effect obtained and the costs and losses, was not calculated. It was such conditions which were a stimulus to the development of more modern, and, it turned out, more expensive means of protecting the electrical machinery of locomotives and traction substations for short circuits, and which added to the concerns of shop technologists and mechanics. It was again felt that the millions of kilowatt hours returned to the supply system would compensate for all costs.

#### Unproven Claims Made

The first to announce their "againsts" were track workers, who claimed that costs for additional repairs on sections with intensive electrical braking were higher than savings from electrical energy economies. Again, however, this claim was made without studies. Specialists then began their research.

Last autumn the Ministry of Railways' technical council discussed this question. Candidates of technical science at NIIZhT N. Karpushchenko, chief of the Track and Track Operations Department, and Yu. Likratov, docent of the Rolling Stock Department, reported on their work.

The editorial board instructed correspondent V. Kurkov to discuss the research with the authors.

[Question] Correspondent: So, Yuriy Nikolayevich and Nikolay Ivanovich, let us attempt to determine, no matter how our conversation goes, one question: are we for regenerative braking or against it?

[Answer] Yu. Likratov: Why so categorical? It is customary to start any conversation or undertaking from the beginning.

[Answer] N. Karpushchenko: I will cite one paragraph from our report to the Ministry's technical council. It specifically outlines the theme of the interview: "The use of regenerative braking leads to somewhat of a reduction in electrical energy use for pulling trains, and improves movement smoothness and safety. At the same time, its use increases rail and locomotive wheel wear intensity by a factor of 2-3 fold and there is a rapid increase in rails being put out of gauge. The use of sand and the ensuing track pollution increases 30-40 percent. Rail wear becomes a more frequent phenomenon. The number of locomotive wheel rim remachinings increases 2-3 fold...."

[Question] Correspondent: So, lets immediately halt this wasteful regenerative braking. Only this makes one take caution: your "in favor" is quite timid--"somewhat of a reduction in the use of electrical energy," but the "against" is concrete and conclusive. However, the figures on savings are known. In West Siberia, where regenerative braking is used primarily on level sections, up to 60-70 million kilowatt-hours of electrical energy are annually returned to the supply system; while in East Siberia, where you have done your research and where the track profile is mainly mountainous, the figure is 170-180 million.

[Answer] N. Karpushchenko: In East Siberia the savings are even greater, but track breakdowns and rail wear are incomparably more intensive.

[Answer] Yu. Likratov: Lets not dramatize the situation. We are not posing the question: should there be regenerative braking or not. Our research is still of a local character, on specific sections with grades of 18 per 1,000 and curves with a radius of down to 300 meters. It is here that electric locomotives are working at the limits of adhesion and regenerative braking has long been the rule. Electrical braking at present weight norms has already been included in train operation techniques. It is almost impossible to run trains using air brakes alone--movement safety would not be guaranteed.

[Answer] N. Karpushchenko: In my opinion, you, Yuriy Nikolayevich, as one involved with electric locomotives, must separate all factors. One cannot

just pose the question: do the tracks "suffer" from regenerative braking, it also involves the electric locomotives.

[Answer] Yu. Likratov: We have observed the operation of series VL10 electric locomotives and compared it with data obtained from the study of regenerative braking on VL8's, which previously operated here. The new locomotives are 20 percent more powerful, the weight norm has been raised insignificantly, and there has been almost no increase in speeds. The basically new design of the undercarriage part of the VL10 (standardized for eight axle ac and dc locomotives) has poorer interaction with the rails than the trucks of the VL8. The wheelsets of the VL10 are not balanced by pairs and do not redistribute the load on the rails. This leads to more frequent sliding during regenerative braking and slipping during tractive conditions.

Obviously, one cannot make the conclusion that the undercarriage part of the new machine is in all respects worse than that on VL8 locomotives. However, the design needs modification. Here is the argument for this. Wheelset wear determines the time when electric locomotives are placed on the TR-3 [wheel remachining device]. The Irkutsk locomotives are 30-35,000 kilometers short of the normal run. In addition each locomotive undergoes 5 wheelset rim remachinings annually, and 38 locomotives a year require remachinings because of "sliding." All this has a direct relation to regeneration.

[Question] Correspondent: Yuriy Nikolayevich, does it turn out that you, someone involved with electric locomotives, doubt the economic advisability of regenerative braking?

[Answer] I have doubts, but no conclusions. I have given only the facts, which must be examined, the pluses and minuses taken into consideration, calculated and compared. Our departmental narrowness hinders a complete study. Electric locomotive workers count the savings, and track workers the losses. Regenerative braking is 40 years old, it has become massive. There is no talk of eliminating it. It is necessary to have comprehensive comparative research so that things will be clear. There are many contradictions among track workers and locomotive operations workers. The kilowatt hours saved go under one heading, while the more expensive repairs due to, for example, wheelset remachining, go under another. Nobody compares what we loose and what we obtain. Sometimes the situation reaches a state where the depot heads, at their own risk, temporarily forbid engineers to use regenerative braking.

[Question] Correspondent: This is questionable. Electric locomotives now have a second meter, for measuring the amount of electrical energy returned. The unit norms for energy consumption also include regenerative braking. Now this is not an amateur operation, and not the privilege of individual progressive workers. If a depot head is forbidden to engage in regenerative braking, even for just a day, the excessive consumption of energy will not be recovered, even in a month.

[Answer] Yu. Likratov: Nevertheless, it is forbidden. This is during strong frosts, when the adhesion of the wheels to the rails drops sharply, and the probability of slippage increases. This is a compulsory measure.

We did not use our own research as a means of discrediting the very idea of regenerative braking. It had another goal: that of making recommendations as to how, in difficult mountain sections, specifically Irkutsk-Slyudyanka, to obtain more benefits from such operations and to minimize the negative consequences, in other words, how to increase the KPD of regenerative braking. Such measures have already been developed.

We have determined that immediately after machining, the rim flange wears out very rapidly. Later, after about 2 millimeters of wheel tread wear along the points of contact, wear declines sharply, very sharply! The new rim and the rails with average wear do not match up to one another and this pair itself tries to more rapidly grind away the "excess" millimeters. Sort of a unique form of rolling and grinding is under way. The "iron" itself seeks the optimal geometry of the rail and wheel pair. It is necessary to do this? Not everywhere, we are talking about a specific, heavy traffic mountain section.

[Question] Correspondent: So what's holding things up?

[Answer] N. Karpushchenko: This is a new turn to our conversation--the problem of introduction. On the one hand transportation science, like science in general, is entrusted with solving production problems. On the other, we encounter inadequate understanding of the necessity of our research. It is unlikely that anyone would hinder the research itself, but when it comes to the introduction of our suggestions, what obstacles! They interfere with existing norms and technology, instructions, and the like. Nothing new is free, and this frightens them. They are used to losses and have become reconciled to them. However, nobody has taken into account the fact that outlays for innovations are pursuing an economic goal--the future elimination of losses.

[Question] Correspondent: Comrades, you both have touched upon the economies of regenerative braking, but nobody has translated these "excess" millimeters and repairs into rubles. The problem is not a simple one, it is therefore essential that economists dot all the "i"s, and estimate the KPD of regenerative braking. As far as the technical facets are concerned, it would be good to know how your report was concluded at the ministry's technical council.

[Answer] Yu. Likratov: It noted the urgency of the work and the necessity of its continuation. In addition, there has been a considerable expansion in the number of participants, in addition to our institute, VNIIZhT [All Union Scientific Research Institute of Railroad Transportation], VEINII [expansion unknown], MIIT [Moscow Institute of Railroad Transportation Engineers], and a number of others will also be involved. It was recommended to the locomotive main administration to test the possibility of electric locomotive operation using the changes in rim profile we suggested.

One thing remains to be said in conclusion: Regenerative braking is indisputably one of the greatest reserves for saving electrical energy in transportation. The negative aspects of this complex operation have now been determined with sufficient clarity. As we state, the remainder is a matter of technology and time.

RAIL SYSTEMS

ACADEMY OF SCIENCES OFFICIALS ON BAM INFRASTRUCTURE DEVELOPMENT

Moscow GUDOK in Russian 22 Apr 83 p 2

[Article by V. Chul', GUDOK correspondent: "BAM: Experiences, Problems, Prospects"]

[Text] As GUDOK has already reported, the 16th travelling session of the USSR Academy of Sciences scientific council on BAM problems took place in Bratsk, Ust-Kut and Severobaykalsk. A number of very important questions, whose solution will contribute to the very rapid and effective development of the territory which adjoins the construction zone of the main line, were touched upon during the session.

The participants in the session are speaking.

Academician A. Aganbegyan, chairman of the USSR Academy of Sciences scientific council on BAM Problems:

The scientists and designers who have assembled for the session, travelled in a passenger train over the western section, which has already been handed over for permanent operation, and over the 345-kilometer track of the Buryatskiy. We were convinced of the broad scope of the construction work during the final stage of building the main line. The opening of through traffic for trains on the entire length of BAM, which is planned for this five-year plan, is approaching.

However, let us examine BAM not simply as a steel track which cuts through the centuries-old taiga but as one of the country's most important transportation arteries which relieves to a considerable degree the Trans-Siberian and which will take upon itself 25-30 million tons of freight a year by the end of the century. In order to solve this task successfully, it is necessary not to delay but, on the contrary to accelerate the construction of a number of installations.

The scientific council will insist that not "short" complexes be accepted, especially for permanent operation; the Ministry of Railways should receive a completely ready mainline.

The Baykalo-Amurskaya is a multipurpose road. Its main purpose is to become the life road for enormous, hitherto sparsely populated and difficult of access, regions and to open the way to the industrial development of a region which is very rich in fuel, mineral and timber resources.

The USSR Academy of Sciences scientific council emphasizes that the initial zone is being developed with industrial centers and territorial and industrial complexes. The Southern Yakutskiy Territorial Industrial Complex and the accelerated development of the Komsomol'skiy, Buryatskiy and Ust'-Ilimskiy can serve as examples. This large work of state-wide importance is in the beginning stages.

I. Zandanov, manager of the USSR Academy of Sciences, Siberian Department, Buryat Affiliate's Social and Economic Problems Department:

The railroad is creating the necessary social and economic preconditions for the economic development of the northern part of Buryatiya and for the development of the mining industry. Are we prepared for this? Just as 10 years ago, only two deposits out of all of those assumed to be in the zone have been studied in detail. However, the interested ministries have still not begun to develop them. Evidently the fact that more capital investments than in the country's inhabited regions are required to put them into operation, scares them off. There is a way out. The Baykal-Amur Mainline itself suggests it. It is necessary to create powerful territorial and industrial complexes with a single social infrastructure; the Baykal'skiy and Muysko-Vitimskiy in the Buryatskiy section. Research has shown that here it is possible to use attendant materials effectively when developing the main products in the deposits. This will permit the viability of the territorial and industrial complexes to be increased by 30 percent. The railroad will open the way to developing deposits of scarce raw materials.

There is another aspect of the problem: A "vacuum" in two five-year plans may arise between the putting of the mainline into operation and the beginning of the construction of the enterprises. How can one keep significant human resources in place? In the Severobayakalskiy Rayon alone, the population has increased 11-fold. Many have settle down firmly here. Dismiss the builders in order to later gather them together again? It is impossible to allow this both from a national economic and from a social point of view.

Having kept the personnel, we should be able today to solve particularly utilitarian and practical tasks. Thus, there is the capability in the Zabaykalles' Association to produce railroad ties but not to transport lumber to large distances for processing. For this, it is sufficient to organize the sawing of the railroad ties and their impregnation on the spot. It is necessary to study wisely ways to keep personnel and employment for the family members of the railroad workers.

Yevg. Belkin, scientific associate in the CPSU Central Committee's Academy of Social Sciences:

We have tried to answer the question of how to attach youth to the BAM zone. For this purpose we and Glavbamstroy conducted a survey of the young builders on all sections of the main line. The sociological investigation revealed interesting trends in the life and activity of the participants in the all-union urgent Komsomol construction project.

First of all, it turned out that every third one arrives here not in accordance with an organizational levy but "as a shy fellow", that is, he plainly does not know what awaits him at the site and whether the construction project needs him. Only a third of the young builders were sent here with objective information available. The remaining point out that their notions about life, work and pay were refuted by the reality. The conclusion suggests itself: It is necessary to attach personnel from the beginning, following a well thought out policy of organizational recruitment. The construction project requires young skilled workers in certain trades who are capable of becoming the backbone of the detachment for effectively mastering the Siberian and Far East spaces. It is necessary to inform young people more objectively about living conditions in these regions.

Many youth come to BAM every year; however, the flow of those arriving is still equal to the number of those departing. In a number of Glavbamstroy subunits, personnel turnover reaches 30 percent. Is it possible to form cadre to service the mainline's complex and to develop the taiga's virgin lands from such an unstable contingent?

Yes, the problem of attaching personnel has now become one of the main ones. It is typical that the first for a settled way of life is displayed most clearly among those who have worked here for more than five years. Forty percent of them have changed trades and 38 percent have raised their qualifications. Consequently, one of the decisive conditions for attaching personnel is to find work which an individual likes.

An important role in solving the problem belongs to the improvement of living conditions. Quite a few young people leave because they have not been provided with housing and the necessary living conveniences.

Indeed, if an individual has decided to link his life with BAM, he has a right to count on the conditions which are needed for highly productive work and full-fledged interesting spare time.

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## RAIL SYSTEMS

### USSR ACADEMY OF SCIENCES COUNCIL REVIEWS BAM PROBLEMS

Moscow EKONOMICHESKAYA GAZETA in Russian No 15, Apr 83 p 15

[Article by M. Nikiforov, special correspondent: "BAM's Problems"]

[Text] A plenary session of the USSR Academy of Sciences Scientific Council on BAM Problems was held. It was a business like meeting of scientists from academic and branch scientific institutions and educational establishments and of representatives from other organizations who are direct participants in the construction project. Questions concerning a further increase in the effectiveness of the Bratsko-Ilimskiy Territorial and Industrial Complex and the rational use of the experiences and economic capabilities of BratskGESstroy in solving the tasks of developing the natural resources in the zone of the mainline, and current and future problems in its construction were discussed.

The joining of the rails coming in opposite directions -- east and west, the passage of the first train on the through route -- and these events, as is written down in the socialist obligations of the builders, will occur in October 1984-- will become facts of great historical significance. However, even after that a considerable volume of work, which is 60 percent of the estimated cost of the construction project, will still remain to be performed. This is the bringing of the permanent railroad bed up to high technical requirements which correspond to the design, the construction of stations, sidings, boiler-houses, housing, medical and sanitary points, schools, stores, kindergartens, communications offices, and cultural establishments. Questions concerning the organization of this work, the insuring of the competent vital activity of the transportation main line and the receiving of the greatest effect from it were examined during the session.

The question of the prospects for using large construction collectives was also discussed. Thus, during the years of the building of the mainline, a powerful organization of tunnel builders -- "Bamtonnel'stroy" and many subunits, which will soon complete their installations, were formed. It is important to include the work collectives of the transport builders in the

construction of installations for economic development -- agricultural, highway and others. The complex program for the economic development of BAM's zone, whose first version was recently examined by the USSR Gosplan, creates the prospects for participation in this work.

All told, 29 reports and communications were heard during the session. As always, the results of the discussion will be presented to the directing bodies in the form of a scientific report.

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## RAIL SYSTEM

### INADEQUATE DEVELOPMENT OF SETTLEMENTS ON NEW BAM SEGMENT

Moscow SOVETSKAYA ROSSIYA in Russian 25 Jan 83 p 1

[Article by V. Razboynikov: "Threshholds on the Road"]

[Text] At the end of last year, a 304-kilometer railroad section -- Postysh-evo-Urgal-- was put into permanent operation. Six stations are included in the initial complex. In addition, the turning over of more than 100,000 square meters of housing, kindergartens and schools is coming.

The railroad workers are now beginning to arrive at their permanent residences. We have decided to look at the readiness of Suluk Station with the eyes of a new settler.

The trade problem disturbs many of them. The builders, when they have finished the work, will soon leave. They will "take away" with them the retail points also. Perhaps, it is necessary to arrange the activity of stores again?

There are also flaws in the production sectors. The electrical signalling posts do not work at some stations. The reason? Ground water has gotten into the structures. Meanwhile, the builders swear that they will eliminate all the imperfections. However, the leaders of the Ministry of Transport Construction and BAM's Eastern Section Administration do not recall their promises today.

Having completed their mission the chiefs are beginning to close down construction. However, there is still much work. In 1980, a foundation was dug for a road section building in this same Urgal. Since that time, no one has returned to this project. The trade center has also suffered this same fate.

The volume of work in Urgal is very great. There will be a large marshalling yard and a locomotive depot of 2500 people there. Housing is clearly not sufficient. True, a new trust-- "Urgalbamstroy" -- was recently created.

Evidently, it will perform some part of the work. However, something is delaying the formation of this subunit. Perhaps, it would be worthwhile to remove it from the staff of the Ministry of Transport Construction and to transfer it to the subordination of the Ministry of Railways for the sake of the work?

V. Gorbunov, the first deputy chief of the Baykal-Amur road, says: "Of course, it was necessary to accept the Postyshevo-Urgal section. Only, how will the line operate with such an amount of unfinished work?"

We address this question, in which a barely concealed helplessness is seen, to the directors of the Ministry of Transport Construction and the Ministry of Railways.

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## RAIL SYSTEMS

### INSTITUTE DIRECTOR ON RAILCAR DESIGN DEVELOPMENTS

Moscow GUDOK in Russian 17 Feb 83 p 4

[Interview with A. Rechkalov, doctor of engineering, director VNIIIV [All-Union Scientific Research Institute of Railcar Construction, and the USSR State Prize laureate, by B. Konstantinov: "Railcar Builders"; the interview took place on the eve of the Institute's 50th anniversary; date and place not specified]

[Text] [Question] First of all, Akim Ivanovich, on behalf of the GUDOK editorial staff and readers, as well as all railway employees I would like to congratulate you and the VNIIIV collective on the eve of the institute's 50th anniversary and wish you continued success. Tell us about the beginnings of the VNIIIV's biography.

[Answer] Thank you for your wishes. And now let me tell you briefly about the VNIIIV history. As early as in 1930 the Central Railcar Construction Office [TsVKB] was created as a part of the All-Union Association of Railcar Construction and Brake Plants. It was headed by an old bolshevik P. I. Travin. Under his management the TsVKB played an important role from the very beginning in the development of our country's railcar construction, i.e. construction of new types of cargo and passenger cars. Three years later a special railcar construction scientific research office--NIB, was created. This is how the biography of our institute began.

Even then the NIB specialists conducted comparison experiments on all types of railcars that were in use. There are many such types. The scientists also studied durability of a new development in transportation--all-metal passenger cars. Also, together with engineers and builders of Mitishchin machine-building plant NIB specialists created first Moscow metro cars.

NIB employees had to start from the beginning in many areas. They had to create their own methodology of conducting experiments, and they had to conduct all experiments by themselves. First they developed health standards for railcars and solved problems concerning their thermal insulation. Then they implemented welding principles for railcar construction and constructed and improved new models of brakes.

[Question] The VNIIIV and its three affiliates: Rizhskiy, Kalininskiy, and Kremenchugskiy, were created on the basis of the NIB?

[Answer] Yes. But at that time railcar construction enterprises were dispersed in many departments. In this situation the VNIIIV and railcar construction plants were given a task of developing new structures and improving quality, reliability, and longevity of the railway and metrorail rolling stock. In cooperation with railcar builders and several scientific research institutes including the VNIIZhT [All-Union Scientific Research Railway Transportation Institute] and railway higher schools, various types of railcars were developed. They included cargo main line and industrial cars, refrigerated cars, transportation cars of various load-carrying capacity, and passenger cars. Electric and diesel trains and railway motor cars were also developed. Underground express trains, all types of narrow gauge cars, street cars, and high load-carrying capacity containers were developed as well. Furthermore, brake equipment for the rolling stock, transportation compressors, and other car-park products were developed.

The VNIIIV affiliates perform much work currently. For example, in Riga diesel-trains and electric car units are produced for Bulgaria and Yugoslavia. Those countries showed that they are pleased with these products. Our institute also cooperates in the area of railcar construction with specialists of countries--SEV [Council for Economic Mutual Assistance] members.

[Question] Tell us, please about new improvements in railcar construction developed with the assistance of the VNIIIV to commemorate the half a century of its existence?

[Answer] It is impossible to mention everything in a short conversation. I will limit myself to the main accomplishments. Last year we fully switched to the production of new-type load-carrying main line cars on rolling anti-friction bearings. This brought significant savings since the rolling-skidding unit is more reliable, lasts longer, and decreases the consumption of heat and electric energy for traction. It also simplifies operation.

During the last few years the load-carrying capacity of cargo cars increased twice as a result of structural improvements. Currently, instead of the load-carrying capacity equalling 60-62 tons we see numbers 68-70 on stencils of open cars, platforms, and covered cars. This alone lets us save over 100 million rubles annually. And soon it is expected that the load-carrying car itself will become about one-third ton lighter when hollow axles are utilized.

Especially noted should be the many years of work at VNIIIV on developing modern, comfortable express trains with locomotive traction: the "RT-200," produced by the Kalinin railcar plant, and the "ER-200" motor-coach express trains manufactured by Riga machine builders.

[Question] There must still be some problems that have not been solved?

[Answer] Of course. For example, most tests of new technologies are conducted at the MPS [Ministry of Communication] network which is used commercially and filled to the limit, as you know. The lack of our own testing

site hinders the implementation of several new structures. Development of the VNIIIV experimental base is our most important task.

[Question] Finally, tell us about those who develop new railcar technology and about its development perspectives?

[Answer] Today the VNIIIV consists of 27 subdivisions headed by well-known specialists who have gathered rich theoretical and practical experience. Among them there are 78 PhDs and the SSSR State Prize and the Council of Ministers' Prize laureates. The institute's leading experts: Doctors of Engineering L. Kuz'mich, A. Kuznetsov, M. Glushkov, V. Plotkin, and others are scientists of the all-union stature. Furthermore, adjustment specialist G. Subbotin, railcar testing specialists S. Chizhov and F. Atamanenko, and builders of wheel pairs V. Frenkel' and Z. Miloserdova showed that they are excellent masters.

The main direction of our research will consist in the continuation of work leading to the development of specialized railcars for transporting grain, fertilizers, concrete, pellets, cars, lumber, steel sheets, both rolled and packed, and paper. The use of such railcars will allow for automating the loading and unloading process and will ensure full safety of the transported cargo.

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## RAIL SYSTEMS

### INSTITUTE EXPERIMENTS WITH REGENERATIVE BRAKING SYSTEM

Leningrad LENINGRADSKAYA PRAVDA in Russian 10 Mar 83 p 4

[Article by V. Tarasenko: "Electric Brakes"]

[Text] The ER2-867 electric trainset approached the station. It stopped, but the doors did not open. Passengers noticed that it had only four cars and much equipment of various types. This is the unusual electric trainset-laboratory of the Leningrad Institute for Railroad Transport Engineers, which for several months now has been making experimental runs on the mainlines of the Leningrad-Finland Division of the October Railroad.

We all were able to see that as the electric train approached the station it slowed down, the brake shoes pressed against the wheels, from which sparks flew. It turns out that during braking, each electric trainset annually grinds away up to 20 tons of pig iron. This is not all. The track is polluted, and additional expenditures are needed to clean and repair cars. However, this negative phenomenon can be avoided.

The Leningrad institute's department of electric traction has developed a regenerative-rheostat braking system for ER-2 type electric trainsets. V. Yu. Levitskiy, chief of the department's scientific research laboratory, explains.

"We developed this system specially for electric trainsets being series produced at the Riga Electric Trainset Plant, which are now primarily operating on the nation's suburban lines. They have been working for a long time and therefore require modernization. This is very important work, and our institute's specialists are participating in it together with other organizations.

The use of the new system makes it possible to return a large part of the electrical energy during braking to the supply network, while in the long term the energy used in the rheostats can be used to heat passengers' compartments. This makes it possible to annually save hundreds of thousands of kilowatt hours and many tons of pig iron per train.

Our associates A. P. Zelenchenko and O. K. Chander developed the electric braking system in close cooperation with specialists from the October

Railroad, and in particular with representatives of the Leningrad-Finland motor railcar depot.

We have just completed the first stage of testing, where the train was stopped from a special panel in a car. Now it is the operator's turn. After some small refinements and changes in the train control system, he himself will use the new brakes to stop the train.

The electric trainset-laboratory awaits new test runs."

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## RAIL SYSTEMS

### HEAVIER, LONGER TRAINS ON SOUTHWESTERN RAILROAD

Kiev PRAVDA UKRAINY in Russian 4 Mar 83 p 1

*[Article by A. Kalenin, chief of the Koroshenskiy Division of the Southwestern Railroad; "Here Come the Heavyweights"; passages in slantlines printed in boldface]*

*[Text]* How can we speed up the run of rail cars, and how can we provide them with full loads? In reading through the open letter from the railroad workers, truck drivers, and port workers of the Odessa Transport Complex, I have found the answers to these questions.

We see basic reserves, above all, in advanced and progressive methods of work, in high labor discipline, and in improving the technology of the hauling process. Upon the initiative of the locomotive brigade of diesel-locomotive engineer B. A. Zinchuk, a competition has been unleashed in all services under the slogan "Give the Green Light to Heavyweight Traffic." Now almost all engineers are driving trains of increased weight and length. *[Last year alone on this railroad division 17,800 heavyweight trains were dispatched, and they hauled 12.5 million tons of freight for the national economy in excess of the norm. Herein a savings was made of 465 tons of diesel fuel and 312,000 kilowatt-hours of electric power.]* The fuel which was saved ran 374 trains. The initiator of this movement, B. A. Zinchuk, ran 91 heavyweight trains and hauled an additional 68,400 tons of freight. The fuel savings amounted to 13.7 tons.

Making up and running heavyweight trains has required from all of us a more precise coordination of actions between the railroad and the industrial enterprises. As a rule, cars to be loaded and unloaded are delivered to the system after processing between the railroad yards, plants, factories, and combines. The loading and unloading areas of our clients have installed an additional 6 cranes, 7 loaders, 9 electric hoists, 2 conveyors, and they have built two raised tracks. This has allowed an increase in the areas for loading and unloading to accomodate an extra 47 cars. *[Idle time of rolling stock last year, in comparison with the previous year, was reduced by 3 percent. Thanks to this, 1,670 cars were freed up for other needs.]*

We concluded an agreement with the Gomel Division concerning the joint effort to maintain rolling stock. This has already yielded good results. The turnover-rate of cars has been noticeably speeded up. Now we are thinking of concluding such agreements with all the divisions bordering on ours. When such a stable production chain appears, matters will get even better.

Every 24 hours 42--45 heavyweight trains are dispatched from the yard of the Korosten Division. /Before the end of the year there will be 2,000 more of them than there were in 1982. And 2,000 trains means only slightly less than a million tons of additional freight./

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A heavyweight train is not merely an increase in the length of the train, as compared with an ordinary train, but it also means an additional loading of the cars above the technical norm and a reduction in the idle times throughout the entire chain. Regarding this problem, we have informed all the groups at railroad yards and our clients. One of the first to respond was the group at the Zhitomir Freightyard. By effectively utilizing cars in cooperation with the related enterprises, it has pledged to over-fulfill its assigned task with regard to the static load of cars by 100 kilograms per car. Their example has been followed by many freightyards in this division. Senior Receiver-Dispatcher of the Novograd-Volynskiy Yard V. N. Svinarchuk pledged to economize by approximately one thousand cars during the present year thanks to an intensified loading process. The Zhitomirdrev Production Association has begun to off-load to its customers dining-room and bedroom furniture in unassembled form. In such a way this association frees up 100 cars every year.

In loading above the technical norms we have encountered quite a few difficulties here. In order, say, to safely load 72 tons into a 65-ton car, it is necessary that the latter be maintained in a good condition. But often rolling stock comes to us in a lamentable state. /In January--February alone more than 5,000 gondola-cars requiring significant repairs arrived from the Lvov, Belorussian, as well as the Southwestern Railroads./ Most of the enterprises of Zhitomir, Korosten, and Ovruch provide active assistance in restoring rolling stock. I would like to single out in particular the Irshanskiy Mining-Dressing Combine, which has become the initiator in the Zhitomir area of the high-quality preparation of cars for loading, including washing them. Many enterprises have created their own special brigades for repairing cars. This matter is improving.

The party bureau of the operations department at the Korosten Locomotive Depot is constantly keeping under its own monitoring controls the progress of the socialist competition among the heavyweight-locomotive engineers, and is replenishing their ranks by means of younger men. Here, as everywhere on this railroad division, the vanguard role is being played by the Communists. At present the locomotive depot is replacing the existing diesel locomotives with the more progressive 2M-62 models. The instructor on mastering the new, comfortable locomotives is the leader of Column No 5 and CPSU member, A. B. Yamshchikov. Successfully working in this column in a 2M-62 diesel locomotive is the candidate member of the CPSU and the son of the well-known locomotive engineer, G. I. Bondarchuk--Petr Grigor'yevich. In January he drove 7 heavyweight trains, while his brother Leonid drove 8. They both hauled 12,000 tons of various types of freight in excess of norms.

The Korosten Division of the railroad is linked by close ties of friendship with the Gomel Division of the Belorussian Railroad. Across the borders of the two fraternal republics through our sections a large flow of all manner of freight proceeds in both directions. And, therefore, we simply cannot operate separately from each other. When heavyweight traffic became mass in scope on our division, the Belorussians immediately supported us in this. Korosten was visited by members of the locomotive brigades from Kalinovichi.

## RAIL SYSTEMS

### HEAVIER, LONGER TRAINS ON EAST SIBERIAN RAILROAD

Moscow GUDOK in Russian 30 Mar 83 p 1

[Article by K. Vaganova, GUDOK special correspondent: "The Heavyweights Are Coming"]

[Text] In honor of the All-Union Communist Saturday the heavyweight train from Korshunikh to Kezhemskaya was driven by the Vikhorevka Locomotive Depot's best engineers, A. Kuz'mich and A. Chebanov. At Kezhemskaya the relay team of A. Zatsepin and I. Korovushkin took over the train.

Instead of assistants, there were extremely experienced engineers in the electric locomotives, and the train included a dynamometric car. Specialists conducted studies in order to raise the weight norm of the trains from 3,000 to 3,600 tons over the entire electrified section of the Bratsk Division.

D. Tsarev, the deputy chief of the division's traffic department takes up the story here: "So that trains of such weight become the norm, we must fill up the pool with VL60 electric locomotives equipped with independent traction-motor excitation. Thereby we will substantially increase the hauling capacity on the most northern section of the East Siberian Railroad."

The number of heavyweights on the Bratsk Division is increasing from month to month. If during the first quarter of last year 188 such trains were run, then during the two and one half months of this year the number had already reached 168. They hauled more than 260,000 tons of freight in excess of the norm.

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## RAIL SYSTEMS

### 'SANDWICH' REFRIGERATED BOXCAR UNDERGOES TESTING

Moscow GUDOK in Russian 1 Feb 83 p 4

[Article by I. Dubinko, engineer: "'Sandwich' on Wheels"]

[Text] The first stage of tests on a new-type refrigerated boxcar is over. Included in an ordinary RS-4 stock, the boxcar transported fruit from Middle Asia to Zabaykal'e. The tests were a success.

On the outside the boxcar is no different from other RC-4 refrigerated boxcars. There is only one difference: a bright letter "S" on the boxcar doors.

"What does the letter stand for?", I ask Doctor of Engineering S. Sapozhnikov, director, the department of heat-technology research at the VNII [All-Union Scientific Research Institute] railway car construction.

"It stands for the 'Sandwich' Model," answers Sergey Alekseyevich. "Right now this is the only one, but this model has a great future."

Imagine that we cut the refrigerated boxcar open like a pie. One can see three layers along the cut. Metal casings are seen on the outside and on the inside. In between there is a layer of expanded polystyrene insulation.

Every housewife is familiar with the following scenario: if the refrigerator door does not close tight, drops of water appear on the evaporator, bottom tray, and the refrigerator walls. The situation is similar inside a refrigerated boxcar. When the insulation system is not perfectly sealed, the circulating air is freed from moisture and "the dew point" is created. Then the moisture settles as drops on the casing of the loading compartment.

As we all know, metal undergoes corrosion. For example, a 2-millimeter thick solid armour would be fully rusted in 7 years. The casing of the old-type refrigerated boxcar has the same problem, and therefore, it needs improving. Gaps develop between layers of expanded polystyrene during the plant assembly. The density of the refrigerator "coat" is also insufficient.

This is why an entirely new type of refrigerated boxcar was developed by the VNII railway car construction machine building plant in Bryansk, the VNIIZhT

[All-Union Scientific Research Railway Transportation Institute] Ural department, and by the VNII synthetic resins department in Vladimir. This action was ordered by the MPS [Ministry of Communication]. The new "Sandwich" boxcar was built in Bryansk, based on the idea of constructing its body according to the panel house-building method, which means that insulation and casing are one. Polyurethane foam is used for this purpose. This material foams and it is both pliable and durable. It is poured into the "skeleton" of the body in its liquid form and then it foams. As it hardens, the mass becomes firmly attached to metal parts for good. Air cannot come through such a solid seam where there are no gaps and leaks. As a result, moisture does not develop on the casing even when there are sharp temperature differences inside and outside of the car.

Scientists who developed the "Sandwich" point to its other advantages as well. Its coefficient for transmitting both heat and cold is high, which means that fuel and energy expenses will be lower. However, its main advantage is that the body will not rust and there will be no need for repairs during the boxcar's lifetime. Polyurethane foam is thinner than insulation materials used up to now. With the same boxcar dimensions this allows for expanding the usable volume by 10 percent, i.e. the load-carrying capacity is increased 3 tons. It is easy to figure out that during one run a set of four "Sandwiches" will be able to have "on board" additional 12 tons of food products.

It was not accidental that Middle Asia and Zabaykal'e lines were chosen as testing sites for the experimental boxcar. There, in the contrasting climate zones, the reliability of the insulation and structural innovations was tested.

Technological equipment is now being developed at the Bryansk machine-building plant's section that fills body blocks with liquid foam polyurethane. It is expected that already during this Five-Year Plan the first experimental-industrial PS-4 stock made up completely of "Sandwich" type boxcars will be ready to make runs.

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## RAIL SYSTEMS

### GREATER USE OF ALUMINUM PARTS IN RAILCAR CONSTRUCTION URGED

Moscow IZVESTIYA in Russian 24 Mar 83 p 1

[Article by V. Sotnikov, director, The Ural Railcar Construction Plant imeni F. E. Dzerzhinsky; and V. Dvukhglavov, chief builder, doctor of engineering, SSSR Council of Ministers Prize laureate: "How to Increase the Railcar Speed"]

[Text] It is well known that aluminum is considered the "winged metal." However, it is less known that aluminum is as necessary to railway transportation as air. This happens to be true. At the 1982 November CPSU Central Committee Plenum Yu. V. Andropov, first secretary, the CPSU Central Committee noted that the transportation system is in trouble. It cannot fulfill the needs of the national economy. We, railcar builders put forward another very important issue: at many enterprises material consumption practically does not decrease, and plans are fulfilled at a price of substantial waste and expense. The obvious question arises: how to increase the transportation system's efficiency and decrease its material consumption? Our collective believes that it is possible to accomplish this task.

Aluminum can and should be the factor speeding up the switch of load-carrying railcars to antifriction bearings. The growth of traffic and carrying capacity of the country's railways is considerably slowed down because over one half of load-carrying railcars that are in use are equipped with plain bearings. According to the MPS [Ministry of Communication] data the transfer of lead-carrying railcars to antifriction bearings would result in substantial savings of electric energy, diesel fuel, lead, and other materials.

However, the implementation of this important task is hindered by the lack of the necessary production capacity needed to produce cast steel axle-box bodies. The casting industry constitutes a very small part of the railcar construction branch. If new foundries are not built in plants the switch of the rolling stock to antifriction bearings will be delayed probably for decades. The transportation system cannot wait that long.

However, the problem can be solved much faster and cheaper. Axle-box bodies can be produced using the extrusion or stamping method. Uralvagonzavod has been working on this problem for several years together with the MPS Main

Railcar Management Office, scientific research and higher learning institutes, and several metallurgical plants. They achieved positive results. Our plant has begun to implement those results by using some parts of the axle-box assembly made of aluminum alloys.

The weight of the railcar as such decreases 200-300 kilograms when steel parts of the rolling axle-box assembly are replaced by aluminum parts. Its load-carrying capacity increases by the same amount. Thus, even when only this change is made, millions more tons of cargo can be transported annually. Also, labor-consuming works can be eliminated in foundries, and workers can be free from them. Metallurgical defects can also be eliminated, and there can be a possibility of transferring machining to the assembly line, which would decrease labor consumption. The need for developing greater production capacity for the production of axle-box body castings will be eliminated.

Thus, there are many pluses. In particular, the MPS will be able to decrease expenses pertaining to the use of railcars, and railcars will be relieved. The longevity of roller bearings will increase and the reliability of axle-box assembly in general will increase as well. The savings generated by one four-axle open railcar will equal 800 rubles on the average, according to the VNII [All-Union Scientific Research Institute] railway transportation. Thus, equipping every 100,000 cars in rolling axle-box with aluminum parts will result in savings of approximately 80 million rubles.

What stands in the way of implementing the new system? It would seem that there should be no insurmountable problems when such results are expected. Kamensk-Ural'skiy metallurgical plant agreed, with the approval of its ministry, to mass-produce compacted aluminum blanks for our plant. It is important to point out that the plant has the necessary production capacity, and major construction will not be required. Every year in our requests for materials, we point to our need for aluminum sheets for the parts described above, and each time we are refused by Glavsnab ministry and the SSSR Gosplan, due to the lack of supply. Other interested ministries and a number of scientific institutes also joined up, but there are still no reserves available. We believe that resources should be redistributed in order to make aluminum sheets available to those branches of the national economy where they will be the most effective.

All avenues should be explored in order to make the resources available for aluminum sheets and start producing axle-box assembly roller parts. Non-ferrous metallurgy enterprises must help transportation workers in this area.

9959

CSO: 1829/223

## RAIL SYSTEMS

### BRIEFS

NEW RAILROAD SECTION OPENED--Abovyan (Armenian SSR)--The Masis-Nurnus railway section has entered operation. The first cargo on this section has reached Abovyan. The builders kept their word; they turned over the route on the eve of May Day. For Abovyan this seemingly small segment--its length is 6 kilometers--is vitally important. Large scale construction of industrial and agricultural facilities is taking place here. The new line will permit cargo to be delivered here by the shortest route. The Masis-Nurnus main line has been in operation for more than 3 years. Its use has significantly eased pressure on the Yerevan railroad junction, and sped up delivery of raw materials and materials to the intensively developing regions of southwestern Armenia. A continuation of the Idzhevyan-Razdan line which is currently being built and is to be completed by the end of the five-year plan, this Masis-Nurnus route will solve many of the republic's economic and transportation problems. It will link Armenia with Moscow, Georgia, and Azerbaijan by the shortest route, and strengthen economic ties with the fraternal republics.

[Text] [Moscow GUDOK in Russian 1 May 83 p 3] 9069

HEAVY-LOAD TRAINS INCREASED--Tselinograd--The first heavy-load train at Tselinnaya was run almost 3 years ago. Now the railroad workers have to their credit tens of thousands of heavily loaded trains. Every day they are organized and dispatched from the Pavlodar, Ekibastuz, Tselinograd and Tobol stations. They are conducted by experienced, technically well qualified engineers. In 1982 the average train weight on the route significantly exceeded that of the overall network. The locomotive operators are also working diligently and creatively today. In just the first 20 days of March, 2,554 heavy-load trains were run, transporting above the norms more than 1.2 million tons of varied agricultural cargo. Engineers from the Kushmurun-skiy Locomotive Depot, A. Timoshenko and I. Ivanchenko, their Atbasar colleagues A. Vasil'yev, A. Mikhalkin and V. Perevozchikov, and Tselinograd workers S. Asanov, A. Sememikhin, K. Zharkimbekov, K. Kalish and many others are recognized here as leading workers. [Text] [Moscow GUDOK in Russian 6 Apr 83 p 1] 9069

SEED GRAIN MISROUTED--Kinel'--More and more often these spring days cars loaded with seed grain pass through our station. However, one forms the opinion that in some places the railroad workers do not know their geography. I will give an example to substantiate this. A South-Ural train of empty flatcars just arrived at our station from Orenburg. It included three cars

of barley. We glanced at the documentation and sighed. The direct route from Orenburg to the Cheben'ka Station on this very South-Ural route is only 56 kilometers. But these cars traveled almost 400 kilometers! Of course we returned them to their destination. But someone should answer for the fact that rolling stock with seed grain is driven around senselessly from place to place. In this specific instance it seems to me that the ones at fault are the workers at Orenburg Station, who forgot their geography and don't remember that Cheben'ki is in their own back yard. [N. Izratov, station park attendant, chairman of the People's Control Group] [Text] [Moscow GUDOK in Russian 12 Apr 83 p 2] 9069

RAILROAD CAR ABSENCE FELT--Kandalaksha--The Kandalaksha port workers have successfully fulfilled their quarterly plan for processing cargo. However, there is little happiness in this. As before, work is going badly on delivery of imported pipes for the Urengoy-Uzhgorod pipeline. Twelve train cars have been awaiting their turn since October of last year. More than 500 Ministry of Railroads empty containers are in warehouses. Coal for the Kirov State Regional Electric Power Plant, and gravel for the Murmansk Shungite Factory remain at the piers. Delays in dispatching goods occur for one reason--there are no railroad cars. The port's management is constantly conducting discussions with representatives of the Murmansk Railroad Station about releasing cars for pipes and other cargo. Unfortunately there is no favorable solution to the problem, although daily dozens of empty cars leave the port. I would like to know when the Murmansk Station managers will at last remember that cargo from the last shipment is still laying dockside at Kandalaksha. This situation greatly concerns the port workers. [M. Myagkova, warehouse chief] [Text] [Moscow VODNYY TRANSPORT in Russian 14 Apr 83 p 2] 9069

CARGO RAILROAD IN BELORUSSIA--Minsk--Belorussian railroad workers undertook to increase the weight of every cargo train by 100 tons. Vitebsk workers have achieved the best results in forming large-cargo stocks. They send up to 25 heavy-weight trains during every shift. Overall, forming heavyweight stocks will help transport and additional 50 million tons annually. [Text] [Moscow GUDOK in Russian 26 Feb 83 p 1] 9959

RAILROAD AUTOMATION IN LENINGRAD--The Institute for Railroad Transportation Engineers will send their new invention to Oktyabrskaya line. It is a robot-manipulator. The robot will play the role of a clever longshoreman at the line. According to test results, the robot will not meet its equal even among the best brigades when it comes to refrigerated rail cars. The robot lifts a 200-kilogram load with ease. A six-men brigade needs the whole shift to unload one refrigerated rail car, but the robot takes only a little over 2 hours for the same job. "The Leningrad production and its railway transportation system adopted a policy of comprehensive automation for labor-consuming operations," says Professor Ye. Yurevich, director of the TsNII [Central Scientific Research Institute] robot technology and engineering cybernetics at Leningrad Polytechnic Institute. "There are already 100 working manipulators." [TASS] [Text] [Moscow NEDELYA in Russian No 10, 7-13 Mar 83 p 5] 9959

**LENINGRAD FREIGHT STATION--** Registration were turned in to the archives for container trains at Leningrad Vitebskiy freight station. They were monitored by "Container"--the first phase of the automatic monitoring system introduced at the station. Even during the introduction process the processing time for containers decreased by 10 percent at the Leningrad transportation junction railroad terminal. Further system improvements will allow for fully automatic monitoring of the container freight turnover, whose share equals here 60 percent of the shipments. During this Five-Year Plan the amount of container shipments will increase two times and large-tonnage cargos--four times at the Leningrad junction. Its park will increase by over 120,000 rail cars. Computers will assist in monitoring this huge amount of cargo. [Text] [Moscow GUDOK in Russian 11 Feb 83 p 1] 9959

**LENA STATION CONSTRUCTION INTERRUPTED--** Ust'-Kut--Lena Station on the East Siberian Road, which has now become a BAM gateway, is seriously in need of further development. This problem is being solved, but very slowly. Work at the ports is being slowed up due to the small number of access roads. The station does not have cadres to build approach roads; there is no modern housing for cadres. The Ministry of Industrial Construction has tried to help the BAM workers. The Stavropol'bamstroy and Krasnodarbamstroy construction administrations were organized. Their collectives have already been working at Lena for several years. They have built temporary housing, prepared bases, garages, and boiler rooms, and equipped them with machinery, equipment and materials. But this is obviously little, and now these construction administrations are greatly cutting back their work. People are preparing to depart, never having accomplished the main task. Who will continue the needed work on expanding the station? This problem must be solved, and the quicker the better for the work. [Article by A. Slesarchuk, inspector, Ministry of Transport Construction] [Text] [Moscow GUDOK in Russian 29 Apr 83 p 2] 9069

**NEW ELECTRIC LOCOMOTIVE TESTED--** Novocherkassk--On the eve of May Day, the collective of the Order of Lenin Electric Locomotive Construction Factory achieved a great labor victory. Assembly of the first experimental model of the VL-85 two-section main line alternating current locomotive was completed. This new electric locomotive is unequalled in the world. During development of the locomotive, scientists at VELNII [possibly--All-Union Electric Locomotive Scientific Research Institute] paid great attention to its efficiency. The relative expenditure of materials per unit of power was reduced by 7 percent, and the use of electricity by 8 percent compared to locomotives in production. It is calculated that the overall savings will be about 20 million rubles for each 100 locomotives. The second experimental model will exit the gates of the flagship of domestic electric locomotive construction in June of this year. [Article by B. Samoylov] [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 30 Apr 83 p 1] 9069

**NEW LOCOMOTIVE ENGINES PRODUCED--** Vladimir--The Vladimir Electric Motor Factory has begun producing engines for electric locomotives which will serve the Baykal-Amur Magistral. Yesterday shipment of the first consignment of units was made ahead of schedule. The new ANE-225 electric engine differs

from earlier models in terms of operating reliability under Siberian conditions. Its power is 35 percent greater with the same weight and dimensions. [Text] [Moscow GUDOK in Russian 15 May 83 p 1] 9069

MINI-GANTRY CRANES PRODUCED--Zhitomir--Mini-gantry cranes, which are entering full production in the Zhitomir road shops of the Southwestern main line, will help eliminate the use of large, high energy-consuming machines for replacing railroad rails. The first models of the cranes have been delivered to the railroad workers. During this year the enterprise will provide more than 100 repair brigades with such cranes. Modernization is currently being completed at the enterprise; when the new machinery enters operation output of equipment for the railroad workers will triple. [Text] [Moscow IZVESTIYA in Russian 18 May 83 p 1] 9069

RAILWAY TRANSPORTATION IN LENINGRAD OBLAST'--Kingisepp--An important work-package concerning rolling-stock repairs became operational today at "Fosforit" association. Repair of rail cars used for fertilizer transportation was mastered there. Chemists answered the call of Muscovites to consolidate efforts and intensify use of transport means through specific actions. The enterprise organized rail car service which coordinates all states of technological repairs. The work is performed by comprehensive brigades that fulfill carpenter, metal, and welding jobs. Railroad workers made spare parts and various plant items available to production workers and helped work out the technology. As a result, "Fosforit" repaired over 1,000 platforms, tanks, and other units this year. Dozens of heavy-weight trains were formed out of the rail cars repaired at Severo-Zapad enterprises, where shops for rolling stock repairs were open. For example, at Leningrad seaport automated shops were built for preventive repairs of large-cargo containers. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 5 Mar 83 p 2] 9959

NEW LOCOMOTIVE IN NOVOCHERKASSK--The VNII [All-Union Scientific Research Institute] electric locomotive construction builders worked out a project of the world's most powerful locomotive. Its power equals 13,600 hp. Today two experimental samples are present at Novocherkasskiy electric locomotive construction plant. Already in the second quarter of this year they will have their first test run. The overall power of the new locomotive's traction motor equals 10,000 kilowatts. Many operations processes are automated. The cabins are comfortable and warm in every weather, and there is air conditioning. Soft seats on springs alleviate jolting. Cargo stocks that will run on Baykal-Amur line will be so heavy that they will require several locomotives, which will be placed at the head, middle, and the tail of the stock. A reliable video-monitoring system has been established in the locomotive at the head of the stock. [by Abdullin] [Text] [Moscow NEDELJA in Russian No 10, 7-13 Mar 83 p 5] 9959

DIESEL LOCOMOTIVES IN LENINGRAD--A diesel locomotive with increased service life was built at the Leningrad association "Zvezda." It will maneuver locomotives and passenger diesel trains delivered from the Hungarian People's Republic. "Motors tested at Velikorusskiy locomotive and rail car repair plant showed positive results," said M. Kalnitskiy, director, the association's construction office. "The new diesel locomotive is 2 tons lighter than those used previously, and it saves up to 14 grams of fuel per 1 hp. Combined together, those "details" allow for substantial fuel savings. Losses have decreased up to 1 million rubles annually only as a result of a decrease in fuel consumption. Diesel locomotive motors produced at "Zvezda" association are well known both in and outside of the Soviet Union. Many of its modifications were awarded the quality sign." [By Darov] [Text] [Moscow GUDOK in Russian 16 Mar 83 p 2] 9959

CSO: 1829/227

## MARITIME AND RIVER FLEETS

### RIVER FLEET DEPUTY MINISTER ON PROBLEMS, TASKS OF MINISTRY IN 1983

Moscow RECHNOY TRANSPORT in Russian No 4, Apr 83 pp 3-5

[Article by N. Smirnov, deputy minister of the RSFSR River Fleet: "To Strengthen Production and Labor Discipline"]

[Text] Even during the first years of Soviet power, V. I. Lenin called for "concentrating all attention on questions of labor discipline which is the peg of all economic organizational development." When doing this, he pointed out that "the communist organization of social labor, toward which socialism is the first step, is supported and will be supported as time goes on by the free and conscientious discipline of the workers themselves".

For the majority of river transport workers, the conscientious and unimpeachable performance of work obligations and a creative attitude toward work have become a rule and a deep conviction. The crews of the "Lenin" and "Sovetskiy Soyuz" passenger diesel-electric ships of the Volga Joint Steamship Company, the "Volga-Don-237" motor vessels of the Kama Steamship Company and of OT-2032, Western Siberian Steamship Company -- where V. A. Kirillov, B. A. Belodvortsev, B. M. Kobelev, and V. S. Manakov are the captains -- can serve as an example of this. There are no violations of production and labor discipline on these vessels. Every member of the collective puts his heart and soul into the work entrusted to him, continuously increases his qualifications, masters allied trades, and helps his comrade in work, life and training. The crews love their ships and create immaculate order on them. The complete fulfillment of the production plan and of the socialist obligations, which have been adopted, has become for them a law -- a matter of honor and conscience.

Thanks to the harmonious work of the collectives in the majority of steamship companies, basin route administrations, canal administrations, transport fleet crews, and port and plant worker brigades, and also to the widespread socialist competition, the branch workers are successfully solving the tasks which have been assigned to river transport by the 26th CPSU Congress. Thus, the average annual growth rate in freight volume reached

3.3 percent during the past two years of the five-year plan as opposed to the 2.8 percent established by the five-year plan.

The plan for the economic and social development of the Russian Federation's river transport during 1983 was developed and approved in accordance with the basic directions in the development of the national economy during the 11th Five-Year Plan. The volume for shipping freight was established at 505.2 million tons and freight turnover at 252.3 billion ton kilometers. In comparison with 1982, freight turnover will increase by three percent or by 7.3 billion ton kilometers, and labor productivity in shipping -- by 2.5 percent.

Just as during previous years, shipping to the regions of the Far North, for the enterprises of the Yakutsk ASSR and the northern rayons of Irkutsk Oblast, to points in the polar area, and to the oil and gas regions of Western Siberia must be a subject of the steamship companies' special attention.

Transportation of the more labor-intensive cargoes -- grain, lumber in ships, sulphuric raw material, and fertilizer -- will grow significantly during this year's navigation. At the same time, the shipment of mineral and construction materials will be decreased. A total of 56.5 million tons must be transported on mixed railroad and maritime communications lines -- this is 27 percent more than in 1982.

In order to develop river transport's material and technical base in 1983, it is necessary to assimilate 10 million rubles of capital investments more than in 1982 and to perform more than half of the construction and assembly work in the rayons of Siberia and the Far East.

Strenuous assignments have been defined for the ministry's industrial enterprises both in the area of ship building and in the area of overhauls and medium and routine repairs to the fleet.

The profit plan under comparable conditions has been increased by 9.5 percent in operational activity and by 19.5 percent in industrial.

Inspired by the decisions of the November 1982 CPSU Central Committee Plenum, the rivermen of all basins are preparing for the navigation period of the five-year plan's third year. A great deal of work is being done in the collectives to improve labor organization, incorporate scientific and technical achievements, strengthen production and labor discipline, and use internal reserves.

During the expanded session of the RSFSR Ministry of the River Fleet collegium and the maritime and river fleet worker's trade union Central Committee's presidium which was held in Moscow on 8 February 1983, increased socialist obligations for the branch during the current year were adopted. They provide for delivering 4.8 million tons of freight above the plan to the national economy with a freight turnover of 840 million ton kilometers, including no less than 100,000 tons to the oil and gas regions of Western Siberia and 50,000 tons to the polar regions of Tyumen Oblast.

As is evident from the information which has been cited, complicated and crucial tasks are facing river transport workers in 1983. The creative and selfless work of all ministry workers is required for their fulfillment.

Comrade Yu. V. Andropov, general secretary of the CPSU Central Committee, pointed out in his report to the ceremonial session devoted to the 60th anniversary of the formation of the USSR: "In a state as vast as our is, transport plays a completely special role. Both an economic and political role and, if you wish, a psychological one.... Transport serves to bring the achievements of socialist civilization in the widest sense of the word to the people". All rivermen must take this broad philosophical definition of transport's role into consideration in their practical work. It is necessary to always remember that the country may not receive hundreds of tons of oil and millions of cubic meters of gas because several tons of freight were not delivered on time to the oil and gas regions, that dozens of workers will be late for work because of a single disrupted trip by a high-speed vessel, and that the rest of hundreds of Soviet people will be spoiled by the irresponsibility of a single crew member on a tourist vessel. Therefore, when entering this year's navigation period, each of us must critically evaluate first of all his own activity and the activity of his subordinates. It is necessary to determine clearly how it should be improved so that it will correspond to the high requirements of the November CPSU Central Committee Plenum. The final result of the work of all collectives -- the successful fulfillment of the planned assignments and adopted socialist obligations -- is especially important.

Increasing the responsibility of each one for the task which has been entrusted and strengthening state, production and labor discipline are the basis for effective work.

Working with cadre is a very important sector in the activity of the party. Naturally, the better this work is organized, the more significant will be the successes. Now, as never before, it is important to insure that people with a broad political and cultural world outlook and high qualifications, people who are capable of thoroughly investigating economic questions and the processes and phenomena of public life, are in every sector of economic activity. The ability to work with people must be inherent in each economic director.

Guided by the party's decisions concerning questions of work with cadre, the ministry continuously performs work to strengthen all river transport links with leading, engineer, technical, and command personnel; and to correctly select, assign and indoctrinate them.

During the last two years alone, 11,500 engineers and technicians have been sent to the ministry's fleet and enterprises. Today, 91,000 diploma'd specialists are working in our branch, that is, every fourth individual has a higher or secondary technical education. This has created conditions for improving the qualitative composition of the fleet commanders and the leading workers of the steamship companies, basin route administrations, canal administrations, and the enterprises and organizations of the ministry.

In contrast to many other branches of the national economy, river transport has several advantages in working with personnel. We have our own system for training personnel in which we prepare more than 42,000 specialists and workers every year. The Discipline Regulation for USSR River Transport Workers and the Regulation for Service on River Fleet Vessels regulate the organization of the work of ship crews and shore services and also permit broader measures for disciplinary influence on violators of production and labor discipline to be used. Many rivermen are receiving awards for prolonged meritorious service and are getting free meals and a number of other benefits.

It would seem that our problems in working with personnel should be fewer. However, there are sufficient of them. It is impossible not to admit that the present level of working with cadre, especially on questions concerning the increase of labor and production discipline, still does not satisfy modern-day requirements.

The personal example of the director plays an important role in strengthening indoctrinational work and in reinforcing labor discipline. V. I. Lenin wrote: "If we are to conscientiously teach discipline to the workers and peasants, we must begin with ourselves."<sup>4</sup>

Guided by Lenin's instructions, our party indoctrinates all economic leaders in self-discipline, high principles and efficiency. It obliges them to display the necessary concern for their subordinates and, at the same time, to display exactingness and to make people, who treat work carelessly, strictly responsible, not making any allowances and not tolerating a conciliatory and liberal attitude.

The directors of steamship companies, basin route administrations, canal administrations, ports, and ship-repair yards must set an example of organization, discipline and execution. The state has entrusted enormous material valuables to them and given them large rights; they must use these rights to improve work, strengthen production and labor discipline, improve the technical condition of the fleet and transhipping equipment, and decrease the idle time of vessels.

In order to fulfill the state plan for shipping freight, it is necessary to display more independence, initiative and enterprise.

There are quite a few directors in the ministry who are setting an example of efficiency and discipline and who are able to solve the tasks, which have been assigned to river transport, concretely and effectively. Meanwhile, individual directors present laudatory self-serving reports during collegium sessions and easily provide unsubstantiated positive statements instead of developing concrete measures to improve the use of the fleet and to increase the responsibility of personnel for the fulfillment of the planning targets and the socialist obligations which have been adopted. This break between word and deed is perhaps the most serious shortcoming in the economic activity of workers of any rank.

A total of 13 directors were punished by the collegium during 1982 for violating state discipline and for various derelictions in work. The fact that additions still persist in a number of enterprises, that bookkeeping is distorted, and that the illegal expenditure of state resources and the desire to adorn the actual state of affairs with unlawful methods are being noted, is especially disturbing. An important role in eliminating these deficiencies belongs to the workers of the ministry's central apparatus and steamship company administrations. The state of affairs in the steamship companies, the strengthening of order and the successful fulfillment of the plans depend to a great deal on their principles and persistence in carrying out the party's economic policy. In this regard, an accurate control system, which would administer what is necessary for mismanagement and the loss of state resources with the appropriate severity regardless of rank and position, is needed.

Directors are not born; they are made. A great deal in their formation depends on consistency in working with personnel. We are talking here first of all about the need to indoctrinate directors and about studying their political, business and moral qualities.

It is necessary to mention that we still are lacking in requiring the directors of steamship companies and personnel services and sections to thoroughly justify their recommendations for promoting people; we treat the stereotyped references, which are submitted on the recommended nomination, tolerantly; and we do not give the necessary evaluation to recommendations which turn out to be groundless. All this leads to errors in appointing individual directors. During recent years, the ministry has been forced to dismiss from their positions the following persons for gross violations of state and work discipline: Gorshkov, the chief of Moscow's Western Port; Goryunov, the chief of Rybinskiy Port; Savel'yev, director of the Plant imeni Butyakov; Svistelin, the chief of the Alekseyevskaya REB Fleet; and Korolev, the chief of the Omskoye River School. In the future, the ministry's collegium will make both the directors of the steamship companies and the ministry's Personnel and Training Institutions Administration strictly responsible for the validity of the proposals submitted.

Questions concerning the rhythmical supply of vessels and freight cars, the safekeeping of freight, and the observance of fund discipline and contract obligations have important significance in improving production and labor discipline.

Because of the insufficient organization of the joint and efficient work of the steamship companies and ports with the railroads, road departments and stations, the norms for supplying freight cars are not being fulfilled in the majority of cases. As a result, many river ports were not able to dispatch goods, which had been acquired in 1982, to the users by the beginning of the navigation period. This seriously complicated the work of the ports.

In the largest transshipping ports which are equipped with modern trans-loading equipment, such as Yaroslavskiy, Kuybyshevskiy, Tobolskiy, Khabarovskiy, and many others, the established norms for processing freight cars were not fulfilled last year. For the ministry on the whole, the time for processing freight cars exceeded the plan by 0.9 percent. This was tolerated under conditions where there was an acute shortage of rolling stock on the railroads.

Shortcomings in operating activity, especially the uneven arrival of vessels and freight cars in the ports, are causing a significant idle time among port workers; this, in turn, leads to violations of both financial and labor discipline.

A number of steps have been taken by the steamship companies to improve the quality of shipping and safekeeping freight. The norms for natural losses when shipping a broad range of goods have been tightened up. At the same time, shipping quality still does not satisfy modern requirements. Losses due to the failure to safeguard goods are not being decreased. As before, they are significant in the Lena Joint, Yenisey, Irtysh, Volga Joint, and other steamship companies.

Cases of embezzlement of goods by river transport workers were noted during the 1982 navigation period. Crew members of the "Nikolay Fil'chenkov", "Nikol'skoye", and GT-26 motor vessels participated in embezzling vegetables, and members of the "Simferopol'" motor vessel's company-- in embezzling grain. Criminal and administrative proceedings were instituted against the guilty parties.

Considerably less than the prescribed amounts of stocks of rolled ferrous metal products, industrial wood, cement, diesel engines, and diesel generators were received by the ministry's enterprises during 1982. Omsk, Belgorodok and Chistopol'skiy plants broke contract obligations for the delivery of ship's gear and spare parts. As a result of the failure to receive all fund materials and accessories according to the contracts, the most important tasks in strengthening and developing the material and technical base of the branch were performed extremely laboriously, a number of vessels and machine building products were not constructed, and considerable idle time of foundries and ship-fitter and metal worker brigades occurred.

The strengthening of discipline and increasing of organization and responsibility are today the first and foremost tasks. When they are solved, it will be possible to put into operation and to put at the service of the five-year plan large reserves without additional material and labor expenditures. That is why it is difficult to overestimate the importance of the initiative of Moscow's progressive collectives who have promoted the movement to further strengthen work and production discipline. You see, it must be confessed that interruptions and losses are even tolerated in stably working collectives and that shirkers, drunkards and bad workmen sit snugly behind the backs of progressive workers. Among river transport workers, there are still people who neglect their work obligations. The significant turnover of personnel and the large losses of work time because of loafing,

tardiness and other violations of work and production discipline are a witness to this; occupational injuries are still not uncommon.

In carrying out the decisions of the 26th party congress, the ministry's collegium has adopted a number of important documents on improving work with personnel, improving the organization of labor, increasing the responsibility of the workers for the fulfillment of state plans and the socialist obligations which have been adopted, strengthening labor discipline, decreasing personnel turnover, and insuring sailing safety. To begin with, these are the ministry's special orders No 42 dated 19 April 1982 and No 55 dated 29 April 1981. As a check on the progress in fulfilling the mentioned orders, the directors of the steamship companies, the basin route administrations and enterprises listen every quarter to the ministry's directors during a session of the collegium. These and a number of other measures, which have been taken during recent years in the steamship companies, enterprises and organizations of the ministry to stir up indoctrinal work with cadres, undoubtedly have had their effect. The majority of the workers are working conscientiously and inspiredly in their sectors, thereby insuring a steady growth in labor productivity and an increase in the effectiveness of river transport. During the two years of the five-year plan, personnel turnover has been reduced by 2.7 percent, the number of people who loaf by four percent, losses of work time due to loafing by 1.8 percent and intra-shift idle time in industry by 11.7 percent.

However, personnel turnover in the steamship companies still remains high and is 19.1 percent in the fleet, 23.2 percent in loading and unloading operations and 12.2 percent in industry. A total of 27,800 people, including 4,700 specialists, are released annually according to their own wish. During 1982, 3,200 people were dismissed for various violations of labor and production discipline. A total of 532 fleet commanders, including 270 captains, were disqualified. For the ministry as a whole, approximately 800 people do not work every day because of loafing and leaves of absences with the permission of the administration.

Here is what N. P. Vashchenko, a USSR state prize winner and crane operator in the Krasnoyarsk river port, writes about this: "Entire brigades have not come to work in some shifts. For example, on 16 August 1982, only 142 individuals were engaged in loading vessels and processing freight cars, and 30 port workers had not come for the shift at all; they were shirking work." Unfortunately, it was possible to observe a similar picture in several other ports during last year's navigation period.

The accident rate level with ships is a direct reflection of the condition of labor and production discipline in the fleet. The number of accidents involving river vessels increased by 19.2 percent in 1982 as compared to 1981. A significant increase in accidents was noted in the Irtysh, Northern, Yenisey, and Lena Joint Steamship Companies. Here, the navigation and general ship's services are organized poorly. It is not by chance that for the ministry as a whole 21 percent of the accidents occurred while vessels were moving under conditions of limited visibility, and more than half of all the

accidents were committed in 1982 because of violations of the Regulations for Service on Vessels. Thus, N. N. Smirnov, the captain of the Northwest Steamship Company's "Kuban'" motor vessel, fell asleep while standing watch in a drunken condition. The unguided motor vessel hit a landing in the Yaroslavskiy port at full speed and caused considerable damage to it. Such ship's handlers should be ruthlessly striken from the fleet and criminal proceedings should be instituted against them.

Meanwhile inadmissible leniency toward drunkards and accident-prone workers is being displayed in a number of steamship companies and basin route administrations under the pretext of concern for people and the preservation of personnel. This primarily pertains to the Lena Joint Steamship Company where a number of fleet commanders cause accidents from year to year because they appear on watch in a drunken condition. Such cases were pointed out during the 9 February 1983 expanded session of the ministry's collegium and the trade union Central Committee's presidium when the question "On Measures To Strengthen Labor Discipline and Prevent Accidents in the Fleet" was discussed. Special attention was paid to improving indoctrinal work in the collectives of the fleet and the shore and to increasing the responsibility and conscientiousness of both the rank and file and the command element.

Discipline in the fleet and the level of indoctrinal work on the vessels depend a great deal on captains, their responsibility and their professional skill. That is why it is necessary in the steamship companies and basin route administrations to fundamentally change the practice of selecting ship captains and to increase their responsibility for the observance of regulation requirements on a vessel. In order to create the authority of fleet commanders, it would not be bad in the steamship companies to develop a ritual for assigning ship captains -- to hold the presentation in the presence of honored captains and relatives and to publish lists, which have been approved by the captains, in basin newspapers.

The captain of a vessel or a brigade leader, a shop foreman or a plant director, a leader of any rank must create in his collective a situation where each worker carries out his service duties completely. This requires from economic leaders and party, trade union and Komsomol organizations a certain reorientation; an improvement in training for production and the complete servicing of the fleet; the regulating of the work of the bookkeepers, trade union committees, work supply services and subunits, and the basin polyclinics; a further improvement in work style and methods; the strengthening of executive discipline; the more precise definition of official instructions for individual workers; and possibly changes in work force schedules. It is necessary to intensify the activity of fleet commander councils, public personnel sections, commissions for the struggle against drunkenness and comrades court which must create an intolerable situation around violators of discipline and accident-prone people and make known every delinquency.

Socialist competition and the brigade form of work organization are important and tested methods for indoctrinating workers. It is in them that the bond

between work indoctrination and ideological training is clearly displayed. All this work must be accompanied by a serious analysis and directed toward improving the use of work time and toward significantly improving labor productivity.

Concerning people who treat their work negligently, who violate labor regulations and who do not fulfill established quotas -- it will be necessary to take the severest measures against them: deprive them of rewards and bonuses based on the year's work results, additional leaves of absence for uninterrupted periods of work, and passes to sanatoria and houses of rest; transfer to someone else their turn at improving their housing conditions; and make wide use of the entire arsenal of material and moral influence measures. It is appropriate here to recall one clause in the Discipline Regulation for River Transport Workers: "The failure of a chief to use his disciplinary authority in the necessary cases is a violation of discipline". If you treat violators of labor discipline leniently -- you yourself will be punished. In this connection, it is necessary to direct the special attention of leaders to their personal responsibility for order and the labor and production discipline in the enterprises entrusted to them.

In this regard, the November CPSU Central Committee Plenum directly requires from leaders the creation of economic and organizational conditions which would stimulate productive and quality work, initiative and enterprise. Poor work and irresponsibility must affect material rewards, one's official position and the moral authority of a worker.

Comrade Yu. V. Andropov pointed out during a meeting and discussion with the leaders and progressive workers of the Moscow Machine-Tool Plant imeni Sergo Ordzhonikidze; "We need conscientious work discipline -- such that would advance production. We must fill the struggle for discipline with a great content and link it directly with the performance of production quotas; then there would be -- so to speak -- no idle exhaust."<sup>5</sup>

The struggle to improve labor discipline and to increase the responsibility of people has found a wide response among the port and plant workers and fleet crews. On 7 February 1983, the progressive collectives of the sailing element, ports and ship-repair enterprises signed an appeal to all workers in the RSFSR Ministry of the River Fleet. In it they called upon the crews of all vessels and the collectives of ports, ship-repair yards and fleet repair and operating bases to carryout the rules and regulations, which are in effect in river transport, accurately; insure accident-free work; increase shipping quality; accelerate the processing of goods in ports; and develop in every way possible comradely solidarity and mutual help in work. By continuously improving the organization of labor, increasing production and labor discipline and broadly spreading socialist competition these collectives have decided to increase during this year's navigation labor productivity in shipping by five-eight percent for that actually achieved in 1982 and to decrease the planned stay of vessels, freight cars and trucks in port by four percent. These are very high frontiers! The task of the fleet's crews, dispatch apparatus, steamship companies, and the workers in the basin route administrations, ports, and ship-repair yards is to support

this valuable initiative and to make the achievements of the progressive workers the work norm for the majority of the collectives.

The new Regulation for Service on Vessels which was introduced on 1 March of this year, will serve to increase the production and labor discipline of the sailing element and to create more favorable conditions for highly productive and accident free work in the fleet. In it, the rights and duties of the command element and the rank and file of ship crews have been defined more precisely and expanded; the clauses, which provide for the use in the fleet of the brigade work method and the combining of professions, have been strengthened; and the sailing organization of mixed "river-sea" voyage vessels under sea conditions has been defined. The primary task of the sailing element is to study the new Regulation for Service on Vessels and to insure its clear-cut carrying out by all crews in the fleet.

The navigation period of the five-year plan's core year is rapidly gathering speed. The initiators of socialist competition are setting the tone for harmonious, creative and selfless work. We will be persistent in seeing to it that each work day brings ever more weighty results in the work of each fleet crew and of each ministry subunit!

#### FOOTNOTES

1. V. I. Lenin, "Polnoye sobraniye sochineniy" [Complete Works], Vol 40, p 174.
2. Ibid., Vol 39, p 14.
3. Yu. V. Andropov, PRAVDA, 22 Dec 1982.
4. Lenin, op. cit., Vol 50, p 63.
5. Andropov, op. cit., 1 Feb 1983.

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## MARITIME AND RIVER FLEETS

### JANUARY-APRIL 1983 MARITIME FLEET PERFORMANCE

Moscow VODNYY TRANSPORT in Russian 14 May 83 p 1

[Article; "The Maritime Fleet" under the heading: News of the Labor Rivalry"]

[Text] As a whole, the ministry's plan for coastal transport for April was fulfilled by 104.2 percent. The above-plan cargo haulage was 220,000 tons. The plan for dry cargoes was fulfilled by 107.6 percent and for liquids by 99.2 percent. The nonfulfillment of the plan for liquid cargoes is explained by the fact that the shippers, basically USSR Goskomnefteproduktov [the USSR State Committee for the Supply of Petroleum Products] did not present the planned volume of cargo to the Caspian and Kamchatka Shipping Companies. The best results in coastal navigation were achieved by the Black Sea, Far Eastern, Novorossiysk, Danube, Murmansk, Baltic and Northern Shipping Companies. In the ports of Vladivostok, Nakhodka, Leningrad, Murmansk, Kandalaksha, and Arkhangel'sk there was an intensive accumulation of cargoes for Chukotsk and Arctic points. All cargoes presented for transport through north-west ports to Dudinka in April were delivered to destination by ships of the Murmansk Shipping Company.

The transport of cargoes to Magadan, Sakhalin, and Petropavlosk-Kamchatka was constantly monitored. The ice situation in the Tatarskiy strait, however, and frequent storms held back the shipments through the port of Vanino. As a result, on the Far Eastern railroad rail cars for Vanino piled up. Glavflot [Main Administration for Transportation and the Operation of the Fleet] took the necessary measures to switch some of the cars to other ports.

It was different on the Petropavlosk route into the port of Vladivostok. During April shippers and railroad men were unable to provide the port with rail cars in accordance with the established quota. On the Far Eastern railroad the lack of rail cars for the Kamchatka route made itself felt constantly. Requests to USSR MPS [Ministry of Railways] and Gossnab about increasing the delivery of rail cars with cargoes for Kamchatka to the port of Vladivostok did not have positive results.

The full volume of cargoes was not presented for transportation to the Caspian ferry crossing.

For the four months, the industry plan for coastal navigation as a whole was fulfilled by 104.3 percent including 106.7 percent for dry cargoes and 101.2 percent for liquids. All the shipping companies coped with the four-month assignment except the Sakhalin and Kamchatka Shipping Companies. In foreign navigation, the plan for April was fulfilled by 103.8 percent and for the four months, by 103.2 percent. Good results were achieved by the personnel of the Black Sea, Far Eastern, Baltic, Azov, Danube, Georgian, Latvian, and Estonian Shipping Companies in hauling export and import cargoes. Because the Ministry of Foreign Trade did not present timber and import cargoes for transportation in the planned amounts, the Sakhalin and Kamchatka Shipping Companies were unable to fulfill the April and four-month plans.

In April, Soviet ships successfully provided for the delivery of cargoes to the ports of socialist countries. Transportation was fulfilled to Cuba, Vietnam, Bulgaria, the GDR, and along the Danube to Czechoslovakia and Hungary. Important haulages of fresh fruit and vegetables into the Soviet Union were carried out from sea and river ports of Bulgaria and Vietnam, and also sugar from Cuba and forage grain from capitalist countries.

Steady and regular operation of the international ferry crossing from Varna to Il'ichevsk was maintained. The specialized refrigerated fleet regularly entered ports in Cuba and Vietnam to carry out citrus fruits.

In connection with the impending opening up of navigation to points in Chukotka, the Arctic and Sakhalin, it is necessary to give first-priority attention to the preparation of the fleet and the cargoes in accordance with the transportation requirements of the clientele so as to make prompt deliveries on the established dates during the navigation season of all necessary cargoes.

The Central Asiatic Shipping Company fulfilled the plan for transport for the four months in all forms of transportation in tons by 110.4 percent and in ton-miles by 119.8 percent.

The Fulfillment of the Plan for Transportation  
in Coastal and Foreign Navigation for the First  
Four Months of 1983  
(in percent)

Shipping Company	Coastal Transport	Transport in Foreign navigation
Nothern	151.6	100.4
Murmansk	122.9	100.3
Baltic	141.7	101.2
Estonian	108.0	105.2
Latvian	137.2	106.1
Lithuanian	295.6	101.9
Soviet Danube	109.1	109.5
Azov	104.8	110.5
Black Sea	117.1	102.9

(continued)

(table continued)

Shipping Company	Coastal transport	Transport in foreign navigation
Novorossiysk	106.4	100.2
Georgian	108.6	108.7
Caspian	100.4	134.6
Far Eastern	119.8	102.2
Kamchatka	94.7	98.4
Sakhalin	99.8	91.8
Maritime	101.5	101.4
For the MMF as a whole	104.3	103.2

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## MARITIME AND RIVER FLEETS

### PERFORMANCE OF MARITIME FLEET IN FIRST QUARTER, 1983

Moscow VODNYY TRANSPORT in Russian 16 Apr 83 p 1

[Article: "The Maritime Fleet" under the heading: "News of the Labor Rivalry"]

[Text] The cargo fleet as a whole fulfilled the ministry's plan for coastal transport in March by 109.6 percent. Included in this, dry cargo transport was fulfilled by 115.2 percent and liquid cargo, by 102.3 percent. The best results in this kind of navigation were achieved by the Far Eastern, Murmansk, Sakhalinsk, Black Sea, Latvian, and Azov Shipping Companies. Only the Northern Shipping Company did not cope with the March assignments because the planned volumes were not presented to it for transport.

In foreign navigation the transportation plan for March was fulfilled by 98.5 percent including 99.7 percent for dry cargoes and 93.2 percent for liquids. The Northern, Lithuanian, Novorossiysk, Georgian, and Kamchatka Shipping Companies did not fulfill assignments. The main reason was an incomplete presentation to them of the planned amount of cargo.

According to the results for the first quarter, all shipping companies fulfilled the plans for coastal and foreign navigation. In coastal navigation, the assignment for dry cargo transport was fulfilled by 106.3 percent and for liquids, by 102 percent.

The fulfillment of the plan for the transport of the principal kinds of cargo amounted (in percent) to: 117.3 for grains, 121.0 for coal, 125.8 for fertilizer, 131.2 for construction materials, 135.8 for timber, 140.2 for chemicals, and 141.9 for ferrous metals.

In the western sector of the Arctic where year-around navigation is being carried out, ships of the Murmansk Shipping Company transported all cargoes presented for haulage to Dudinka and brought out all the products of the Noril'sk Combine. A new ship for Arctic navigation, the motorship "Noril'sk" began to operate on this route.

In the Far Eastern basin all goods were delivered to Sakhalin, Petropavlovsk Kamchatka and Magadan. The assignment of USSR Gossnab for the delivery of cargoes on these routes, however, was not completely fulfilled. Under-delivery to Sakhalin amounted to 64,000 tons and to Petropavlosk and Magadan,

to 9000 tons. The nonfulfillment is explained by incomplete deliveries in January and February, complex ice conditions on the routes from Vanino to Korsakov and Kholmsk, and by the nonremoval of cargoes from the port of Magadan by the motorvehicle transport enterprises. All the same, the delivery of goods to Magadan was increased by more than 100,000 tons compared with the same period last year.

In the southern basin, shippers' requirements were fully satisfied except for transportation on the Caspian ferry crossing from Baku to Krasnovodsk. At the same time, shippers did not present for shipment such goods as ore and grain in the planned volumes. The cargoes (pipe, cross ties, fluxes, salt, and containers) switched over by agreement with USSR Gossnab onto cargo ships of the Caspian basin were not presented for shipment.

To make up for the arrearage in the basins, it is necessary, first of all, for the management of the Far Eastern, Sakhalin, Maritime, Caspian, and Danube Shipping Companies to organize the operations of the fleet and the ports so that in the second quarter, transportation is provided for cargoes to Sakhalin, Magadan, and Petropavlovsk in the volumes assigned by USSR Gossnab for the first half of the year. It also is necessary to improve the operation of the Caspian ferry crossing, and, in the presentation to shippers of additional volumes of ore, to arrange for its transportation on the Black Sea.

In foreign navigation, the plan for the first quarter was fulfilled by 102.6 percent for dry cargoes and 103.1 percent for liquids. In this, the transport of exports was provided for by 104.4 percent and of imports, by 85.8 percent. The nonfulfillment of the plan for imports arose because of the nonpresentation of several cargoes in accordance with the orders of the Ministry of Foreign Trade.

Transportation of goods to Cuba was successfully fulfilled and also to the Socialist Republic of Vietnam and to the other countries of the socialist collaboration. Transportation was provided of the imports for the facilities being constructed on the export gas pipeline from Urengoy to Uzhgorod.

Initiators of the All-Union Socialist Competition made a great contribution to the fulfillment of the plans for the first quarter; namely, the personnel of the Black Sea Shipping Company, the Port of Leningrad, KhEGS [Self-supporting Operational Group of Ships] No. 1 of the Latvian Shipping Company, and the crews of the motorships "Vladimir Il'ich" of the Baltic, and "Elektrostal'" of the Far Eastern Shipping Companies. Other collectives of shipping companies, ports and ships' crews have followed the example set by the initiators.

In the work of the ministry, the shipping companies, ports and other enterprises, first priority attention was successfully given to the shipment of the cargoes of the Food Program.

The Central Asiatic Shipping Company fulfilled the transportation plan for the first quarter in all forms of navigation by 112.4 percent in tons and by 107.5 percent in ton-miles.

The Fulfillment of the Transportation Plan  
in Coastal and Foreign Navigation for the  
First Quarter of 1983  
(in percent)

Shipping Company	Coastal Transport	Transport in Foreign Navigation
Northern	152.4	100.3
Murmansk	114.7	100.7
Baltic	-	101.2
Estonian	111.8	103.5
Latvian	145.8	105.1
Lithuanian	-	101.6
Soviet Danube	105.3	112.6
Azov	106.3	108.3
Black Sea	107.1	101.6
Novorossiysk	104.6	101.1
Georgian	108.4	102.0
Caspian	100.2	134.1
Far Eastern	123.2	101.7
Kamchatka	100.7	100.7
Sakhalin	103.8	100.3
Maritime	101.0	100.7
For the MMF as a whole	104.4	102.7

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## MARITIME AND RIVER FLEETS

### CONTAINERIZED SHIPPING IN FAR EAST TO DEVELOP FURTHER

Moscow VODNYY TRANSPORT in Russian 19 May 83 p 2

[Article by P. Averchenkov and A. Koldin, chief and deputy chief respectively of a department of Dal'morniiprojekt [Far Eastern Maritime Scientific Research Institute for Planning]: "The Main Line Route" under the heading: "To Increase the Efficiency of the Specialized Fleet".]

[Text] In the 21 September 1982 issue of the newspaper, in an article entitled "A Container Requires Attention" serious problems in containerization were highlighted in coastal and foreign transportation in the Far East basin, the eastern sector of the Arctic, and the Pacific Ocean. Today the newspaper returns to this subject emphasizing attention on the improvement and further development of coastal transport in international standard containers.

Containerization of freight remains the main line route for increasing the efficiency of maritime transportation. In the Far East it is targeted to work up to four million tons by the end of the Five-Year Plan. Of this, two thirds falls on large-tonnage international standard containers. The proportion of coastal transportation in such containers should amount to 1.3 - 1.4 million tons. Is such a problem beyond the power of Far Easterners and all the participants in transportation? If it is to be solved completely today - the answer is yes.

To specialists of the Dal'morniiprojekt institute, its solution is seen in two stages. To the first stage, with some qualifications, belongs the period from the beginning of the introduction of coastal transport in large-tonnage containers (1972) to the end of the Five-Year Plan.

By what is this period characterized? In the first place, by the creation of the material basis, by the acquiring of experience, and by the organizing of a clear-cut powerful freight flow. It must be noted that not all has gone smoothly. The scarcity of the inventory of containers, the lack and occasionally the absence of specialized tonnage, of port transshipment complexes, and of special motor vehicle transport, and the inability of the shippers' and receivers' bases to process large-tonnage containers - all this held things back.

These factors continue at present to have some influence; however, their effect on the growth of coastal transport is gradually weakening. Thus, in the composition of the Far Eastern Shipping Company there is now the necessary fleet of specialized ships - container carriers. In the port of Nakhodka their processing is being carried out at a specialized complex, the reconstruction of the complex at Vladivostok is being finished, complexes have been built in Petropavlovsk-Kamchatka and Magadan, and a reconstruction and equipping of container areas in the ports of Chukotka and the Arctic is being done. A plant for container repair is being built in Vostochniy Port. The number of vehicle enterprises with specialized motor transport is being reinforced.

The weakest link in the delivery of cargoes in large-tonnage containers continues to be the bases of the shippers and receivers. Coordinating the process of containerizing freight traffic to them was entrusted to USSR Gossnab. For this, on 15 June 1982, at a meeting with USSR Gossnab of the Interdepartmental Commission on the Overall Problems of the Development of Container and Packetized Transport and the Mechanization of Work in the National Economy, two interrelated documents were considered and recommended for approval; namely, "Provisional Regulation for Annual and Quarterly Planning of Container and Packetized Freight Shipments" and "Provisional Procedure for Planning for the Delivery of Products in Universal and Specialized Containers and in Packetized Form".

All the directive documents which have been issued or prepared for issue specify an acceleration of the process of containerization and packetization of freight, including goods for through conveyance in mixed railroad and water transportation, on the basis of more improved planning and comprehensive organizational and technical measures including those of shippers and receivers.

The necessary measures are being taken at the level of the ministries and departments and their organizational subdivisions, and also by the local Party and council bodies. Thus, by a decree of the Magadan CPSU obkom and the oblispolkom, the creation in the Magadan oblast was specified of 45 container areas with a total area of 98,000 square meters. This allows the hope that by public efforts the process of containerization of coastal freight traffic will be developed, and along with it, the efficiency of transportation will be increased.

The second stage of the development of containerization in the Far East is subject to the solution of the problem of improving the structure of the freight traffic, and, on this basis, to further increase the volume of haulage and the percentage of its envelopment by containerization. Today the basic working unit is the universal, international standard, twenty-foot container. Production of them has been set up in plants in Il'ichevsk and Abakansk, and with each year their output is being increased and so is their delivery to the Ministry of Railways and the Ministry of the Maritime Fleet. With the organization of proper maintenance of the working inventory of containers, the problem of their scarcity in many respects will be solved within a few years.

Naturally the question arises - and what will be next?

In our opinion, further growth in the volume of freight should proceed by means of the use of specialized containers of various kinds responding to the requirements and conditions of individually designated cargoes. It is now already necessary to begin the wide-scale production and use on coastal routes of an inventory of forty-foot containers which, in their characteristics, are heavier by a factor of 1.5 and have double the cargo capacity. This type of container already is widely used abroad. Specifically, on the Transsiberian container line, about one half of the volume of goods is being delivered in forty-foot containers. In coastal navigation they can be used for hauling large consignments of general cargoes principally of the industrial and technical categories; for example, metals, construction materials, chemicals, and furniture.

In the Far East basin there is an important coastal freight traffic in perishable fruit and vegetable and meat and dairy products which, at present, are being transported in both refrigerated and general cargo ships. In 1982, on only two coastal lines (Vladivostok to Petropavlovsk-Kamchatka and Nakhodka to Magadan) were more than 130,000 tons of perishable goods delivered. For this, refrigerated, isothermal, ventilated, and other types of specialized containers can be used since general cargo ships are suitable for this freight traffic. On coastal shipping lines ships operate on which the transport of refrigerated containers is provided for, and in the ports there are areas in container terminals for placing and servicing special containers.

The problems of the second stage of development of coastal transport with the use of specialized containers will be solved on the basis of the material and technical foundation which has been created.

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## MARITIME AND RIVER FLEETS

### BRIEFS

KARAKUMY CANAL--Ashkhabad--The first train of barges has cast off from the new wharf of Kaakaka on the Karakumy Canal. The ships with construction materials will pass for the first time over the new 70-km section of the canal to the place of its intersection with the Tedzhen River, where a water-control dam is being built. Now the man-made river, which has stretched 1,100 km over the desert lands, is navigable over nearly half of the route. The Karakumy Canal has become not only a reliable source of irrigation, but also the main transportation artery in the desert. It has linked tens of towns of construction workers and virgin land farms, which have arisen on its banks. The construction of the Karakumy Canal is continuing. Its channel is being widened and deepened. Soon the canal will be navigable to Ashkhabad. [Text] [Moscow GUDOK in Russian 13 Mar 83 p 1] 7807

FINNISH-BUILT ICEBREAKER--Leningrad (TASS)--The icebreaker "Magadan" has dropped anchor at the Leningrad Seaport. It was built in Finland in accordance with a Soviet order. The first of the ships of this series, the "Mud'yug," is already working on the ice routes of the White Sea. The "Magadan" is the second ship of the series. Captain V. Sedashkin reported that meter-thick ice fields are not frightening to the "Magadan." The icebreaker has good running qualities, it is maneuverable. Comfortable conditions have been created aboard it for the crew. [Text] [Moscow VODNYY TRANSPORT in Russian 26 Mar 83 p 4] 7807

PRODUCE CARRIER--Rybinsk--At the Shipyard imeni Volodarskiy the motorship-vegetable carrier was launched a month ahead of schedule. This is the lead ship of a new series which is being assimilated by the Rybinsk shipbuilders. The box-pallets with vegetables, watermelons or fruits are placed in special containers, and the containers are placed in the holds, which are hermetically sealed. The air conditioning system makes it possible to provide the optimum temperature and humidity conditions, which are necessary for the complete preservation of the cargo. The transportation of products in the new ships eliminates their transshipment, which promotes the decrease of losses of vegetables on the long trip from the field to the store shelf. The next ship of this series has been laid down on the slipways of the shipyard. The Rybinsk shipbuilders have undertaken to complete the construction of new ships by the season of the mass shipment of the gifts of the south to the northern part of the country. [By IZVESTIYA correspondent V. Kozlov] [Text] [Moscow IZVESTIYA in Russian 12 Apr 83 p 1] 7807

NEW TANKER SERIES--Kherson--"Dmitriy Medvedev" is the name they gave to the new lead tanker which was recently launched from the slipway of the Kherson Shipbuilding Production Association imeni 60-letiya Leninskogo komsomola. The port of registration

is Ventspils, the Latvian Maritime Steamship Company. The tanker commenced a new series of ships of this class. The motorship meets the high requirements of the international convention on environmental protection. The isolated ballast between the double sides and the same kind of bottom will ensure the great safety of the transportation of petroleum and will increase the unsinkability of the ship. The technical characteristics of the firstling are impressive: the hull height--15 m, the hull breadth--25 m, the length--178 m. The weight of the giant is more than 9,000 tons, the displacement is 33,000 tons. [By A. Yaitskiy, editor of the newspaper SUDOSTROITEL' of the Kherson Shipbuilding Production Association imeni 60-letiya Leninskogo komsomola] [Excerpt] [Riga SOVETSKAYA LATVIYA in Russian 20 Apr 83 p 2] 7807

CEMA COOPERATION--Odessa--A meeting of representatives of the water transport organizations of the CEMA member countries was held in Odessa. Its participants discussed questions connected with the further development of cooperation in the area of maritime and river transportation. The business contacts of the seamen and river transport workers of the socialist countries are being expanded with each year. Now, for example, the Soviet Union, Poland and the GDR are carrying out the joint transportation of their foreign trade cargo on the South American route. The maritime and river organizations of the USSR, Bulgaria, Hungary and the CSSR are successfully coordinating their actions in the development of an advanced technological transportation system of transport--the lighter system. Their joint enterprise, Interlikter, has shown itself to advantage. The basic directions of scientific and technical progress in maritime transport for the period to 2000 have to be developed jointly. [By A. Knop] [Text] [Moscow IZVESTIYA in Russian 22 Apr 83 p 2] 7807

GRAIN SHIPPING BEGINS--In connection with the favorable climatic conditions this year the ships of the United Volga Steamship Line began unusually early the transportation of grain cargoes to Moscow and ports of the Upper Volga. The first motorship, the "Bobruysk" (Captain Proskurin), was loaded at the Yeysk elevator with grain destined for the Southern Port of the capital. During the navigation 1.9 million tons of grain have to be transported, including 1.31 million tons by related steamship lines. [By A. Belodvorets] [Text] [Moscow VODNYY TRANSPORT in Russian 8 May 83 p 1] 7807

AIR-CUSHION PASSENGER MOTORSHIP--Astrakhan--The shipbuilders of the Astrakhan Ship Repair and Machine Facility imeni Uritskiy of the United Volga Steamship Line in cooperation with the Gorkiy designers are building the lead air-cushion passenger motorship of the "Luch" class. These ships will succeed the motorships of the "Zarnitsa" class, which ply small waterways. The "Luch" is more comfortable, the pilot house has been separated from the lounge, the passenger capacity has been increased from 48 to 51 seats. But the main, fundamental innovation is the fact that the aluminum hull has become all-welded and more reliable than the former, riveted hull, which will enable the ship to go out onto the waterways of large rivers. The lead "Luch" will soon be turned over to the Volga Steamship Line. And in all this year three air-cushion motorships of the new class will slide down the yard slipways. [By N. Ivanov, chief engineer of the shipyard] [Text] [Moscow VODNYY TRANSPORT in Russian 14 May 83 p 4] 7807

NEW TANKER--Kerch--The tanker "Marshal Chuykov" is being built at the Kerch Zaliv Shipyard. This ship has a double bottom and double sides. It will be able to transport simultaneously in its tanks four types of petroleum products. The displacement of the ship is 84,500 tons. Its length is 242.8 m, its beam is 32 m. The main engine with a power of 16,800 hp will be able to develop a speed of the ship of 15 knots per hour. As specialists claim, this will be the cleanest tanker in the world. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 18 May 83 p 1] 7807

LOG FLOATING AID--The collective of the Ufa Plant of Industrial Rubber Items imeni M. B. Frunze has assimilated the production of devices for the transportation of timber by water. During floating they are put in the middle of a bundle of logs of deciduous species, which owing to this remain afloat. The use of such floats practically eliminates the losses of timber during floating and increases the safety of shipping. Moreover, on small rivers it is possible to tow logs not only in high water, but also over ordinary water. Water bodies are obstructed less with submerged logs, which is of considerable importance for environmental protection. [By a TASS correspondent] [Text] [Moscow VODNYY TRANSPORT in Russian 24 May 83 p 4] 7807

CARRIER SHIP, BULK CARRIER--Odessa--"Kapitan V. Trush" is what they are calling the motorship, the construction of which is now being completed at the Warnemunde Shipyard in the GDR. This ship will be one of the largest specialized ships and will be able to carry 938 international standard containers. Single cabins with all conveniences, a gymnasium and a swimming pool are envisaged for the crew. One of the largest domestic bulk carriers is being built for the Black Sea Steamship Company at the Nikolayev Okean Shipyard. Its load-carrying capacity is more than 52,000 tons. They have decided to call the ship "Geroi Stalingrada." While the Kherson shipbuilders are building for the Black Sea shippers the next "composer's" ship, the "Aram Khachaturyan." [By R. Dmitriyev] [Text] [Moscow VODNYY TRANSPORT in Russian 24 May 93 p 4] 7807

CARRIER FOR WOOD CHIPS--Perm--Wood chips, sawdust, the cut-off limbs of trees-- how many of them are wasted at the felling areas of the northern regions of the Kama basin! In order to somehow make up for these losses, the collectives of the enterprises of Kamlesosplava should procure annually 100,000 m<sup>3</sup> of technological chips. At the Institute of Mechanics of Solid Matter of the Ural Center of the USSR Academy of Sciences they have developed and tested an original and economical method of transporting wood chips by water. Special plastic containers will be loaded with the wood chips. [By a VODNYY TRANSPORT correspondent] [Text] [Moscow VODNYY TRANSPORT in Russian 24 May 83 p 4] 7807

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## PORTS AND TRANSSHIPMENT CENTERS

### RAILROAD BLAMED FOR RIGA PORT TRANSSHIPMENT DELAYS

Riga SOVETSKAYA LATVIYA in Russian 10 Apr 83 p 2

[Article by N. Litoshenko, representative of the All-Union Soyuzzarubezhgazprom Association at the Riga Commercial Seaport: "The Cargo Has Been Held Up at the Port"]

[Text] The seamen of the Latvian motorship "Mekhanik Fedorov" secured the cargo with great caution and carefully and tried to deliver it as quickly as possible to Riga, protecting from the slightest damages the large boxes with equipment, which had been stowed in the hold. Each one understood well, with what impatience the builders of the Urengoy-Uzhgorod gas pipeline were waiting for this equipment.

And how could one not understand the vexation of the seamen, which they experienced when they saw that they had hurried in vain. The domestic cargo, instead of moving farther without delay toward its destination, piled up at the berths of the Riga Commercial Seaport. "Evidently, it 'storms' more ashore than at sea," the seamen joke cheerlessly.

There is no small grain of truth in this joke. Thus, in March the Riga longshoremen ordered from the railroad 1,995 cars for the shipping of equipment for the gas pipeline, but received half as many. On 5 April in all about 6,000 tons of this cargo has piled up at the berths.

"We are doing everything possible," Deputy Port Chief V. Kurilenko laments, "but it is not possible to eliminate the jam. Frankly it makes one want to carry this cargo on one's back, for there is nothing to carry it on. Every day in accordance with the assignment we should ship from the port 50 cars with equipment for the gas pipeline and would be quite capable of doing this, but we are receiving for shipping from the railroad workers only 25 cars."

It is difficult to reproach the Riga longshoremen with anything. They have done much for the quick transfer of important cargo from ships to the railroad. Specialized brigades of dockers, which are headed by I. Vasil'yev, S. Strel'tsov and I. Smirnov, who at the port are considered to be some of the best, were chosen for this work. The longshoremen and the workers of the Riga-Krasta harbor station were able to adapt for the transportation of the equipment a portion of the special rolling stock which was designed for containers. But this, too, does not solve the problem. Now at the Riga Commercial Port they are waiting for the shipment for the construction of the gas pipeline of the cargo, for the most part out-size cargo, for which flatcars are needed, but no more than five of them are being delivered a day for shipping.

"The trouble is that our flatcars are in great demand as it is," says A. Markov, deputy chief of the Riga Department of the Baltic Railroad. "And still it has been decided to increase their delivery to the port to 20-25 a day. In order to expedite the shipment of equipment for the gas pipeline, we will send it by block trains."

Of course, it is pleasing to hear that the railroad workers, at last, have taken steps to eliminate the jam at the Riga Port. But one would like to know why it formed, why the organization of the timely and smooth hauling of the important cargo for the gas pipeline, which is arriving here, was not thought over in advance? This question, obviously, should be addressed not only to the Riga railroad workers, but also to the executives of the Baltic Railroad and the USSR Ministry of Railways.

Even now the question has not yet been completely settled. For the 25 flatcars a day, which were promised to the port, will not ensure the complete and timely shipment of the equipment to the important construction project. Where is one to get the lacking flatcars? The workers of the Riga Department of the railroad claim that they no longer have any reserves. Then, apparently, the management of the Ministry of Railways and the Baltic Railroad should seek such reserves more vigorously. And this matter must not be delayed.

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### RIGA DOCK WORKERS SUPPORT MOSCOW RAILCAR REPAIR PLAN

Moscow VODNYY TRANSPORT in Russian 11 Jan 83 p 1

[Article by VODNYY TRANSPORT correspondent V. Lushchevskiy (Riga): "The Cars Are Being Treated at the Port"]

[Text] The minor repair of cars and containers directly on the port grounds is becoming for the Riga workers one of the sources of the mobilization of additional resources. But they are very essential precisely now, when the new, third operating area, of which the largest container terminal in the Baltic republics constitutes the basis, is gaining strength near the old berths. In the future its capacities are designed for the transshipment in a year of up to 900,000 tons of cargo. A portion of the goods arrives here via the Transsiberian Railway from Japan, crossing the territory of our country from east to west. It is natural that on such trips damages may occur. It is indeed an important fact that the transport workers of the terminal have their own base for the treatment of containers.

Rationalizers have made a significant contribution to the new matter, to which the initiative of the dockers and seamen gave rise. Among them are I. Podshivalkin, one of the authors of the suggestion on the creation of a general-purpose stand for the repair of containers, brigade leader N. Bashkevich and shock worker of communist labor V. Ol'khovik.

The cars and containers, which have been returned to the transportation conveyor, are the best reward for the dockers, railroad workers and all the followers of the initiative of the Muscovites, which has received permanent registration at the Riga Transportation Center. We asked P. Priknyu, one of the best brigade leaders of the port, to share his opinion on the experience of the Muscovites.

"The repair of railroad rolling stock at the port," he said, "is a guarantee of smoother and more coordinated work with the workers of related industries."

Other managers of consolidated multiple-skill brigades also give similar opinions. The additional efforts, which were assumed by the longshoremen, are being repaid with interest, while in the collective of the port it is always necessary to find people who know carpentry and are capable as the need arises of repairing the floor or side of a car and of performing welding operations on the site. The main thing is that concern about the cars has become a common cause, that the ancient custom of mutual claims of workers of related industries is receding into the past.

At the same time as the search for additional reserves of railroad rolling stock the Riga dockers, in developing the initiative of the Muscovites, also decided to change their attitude toward containers.

There was a time when they piled up on the banks of the Daugava by the tens, and no one undertook to repair them. Now a specialized section for the repair and testing of containers is in operation in the neighborhood of the berths of the port on the grounds of the fleet maintenance base. A unique stand, which was developed by enthusiasts under the supervision of engineers A. Psalmopevtsev and I. Podhsivalkin, constitutes its very heart. Specialists performed complicated and painstaking work in order to provide the stand with all the necessary accessories, mechanisms and technological innovations. As a result manual labor here has been practically eliminated. During 1982 more than 400 international class containers were repaired and put into circulation.

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POTASSIUM CHLORIDE LOADING IMPROVED AT VENTSPILS PORT

Moscow VODNYY TRANSPORT in Russian 21 May 83 p 1

[Article by VODNYY TRANSPORT correspondent V. Lushchevskiy (Ventspils): "An Experiment at the Berth"]

[Text] One of the traditional and most popular types of cargo, which pass through the berths of the Ventspils Seaport, is potassium chloride. However, here the most urgent problem of labor safety procedures and environmental protection is connected precisely with it. How is one to avoid during the handling of chemical cargo the clouds of dust, which rise in the hold and above the berth?

Scientific institutions and rationalizers of the port have been working a long time now on this question. Scientists came to the conclusion that it is necessary to process the potassium, giving it such qualities which would eliminate the raising of dust.

Precisely such cargo, which had undergone preliminary processing at the First Be-rezniki Potassium Mine Administration of the Uralkaliy Production Association, recently arrived at the berths of the port. The potassium salt was treated with three types of special oils, which bond, cement the dust particles. The pilot unloading of the salt, from which the dust was eliminated, onto the motorship "Kapitan Panfilov," should have given an evaluation to the innovative search. In all the Ventspils dockers placed in the hold of this ship about 700 tons of fine crystalline potassium.

The experiment according to the description of the Lenmorniiprojekt [not further identified] and the All-Union Scientific Research Institute of Halogens, the technical managers of the port and staff members of the sanitary service and the local hydrometeorological bureau, was a success. The dockers worked without means of protection of the respiratory tracts, which in this case proved to be unnecessary. There was no raising of dust on the conveyor lines and at the sites of the transfer of the cargo. The impact of the innovation at such an important stage of the technological process as the work within the hold was especially high. Measurements showed that the dust content was reduced to one-eleventh as compared with the loading of ordinary potassium chloride.

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